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Government
Publications

MACKENZIE VALLEY PIPELINE INQUIRY

IN THE MATTER OF APPLICATIONS BY EACH OF
(a) CANADIAN ARCTIC GAS PIPELINE LIMITED FOR A
RIGHT-OF-WAY THAT MIGHT BE GRANTED ACROSS
CROWN LANDS WITHIN THE YUKON TERRITORY AND
(b) FOOTHILLS PIPE LINES LTD. FOR A RIGHT-OF-WAY
THAT MIGHT BE GRANTED ACROSS CROWN LANDS
WITHIN THE NORTHWEST TERRITORIES,

FOR THE PURPOSE OF A PROPOSED MACKENZIE VALLEY PIPELINE
and

IN THE MATTER OF THE SOCIAL, ENVIRONMENTAL AND
ECONOMIC IMPACT REGIONALLY OF THE CONSTRUCTION,
OPERATION AND SUBSEQUENT ABANDONMENT OF THE ABOVE
PROPOSED PIPELINE

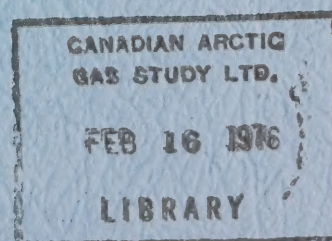
(Before the Honourable Mr. Justice Berger, Commissioner

Inuvik, N.W.T.

January 24, 1976

PROCEEDINGS AT INQUIRY

Volume 116



APPEARANCES:

Mr. Ian G. Scott, Q.C.,
Mr. Stephen T. Goudge,
Mr. Alick Ryder and
Mr. Ian Roland for Mackenzie Valley Pipeline
Inquiry;

Mr. Pierre Genest, Q.C.,
Mr. Jack Marshall, and
Mr. Darryl Carter for Canadian Arctic Gas
Pipeline Limited;
Mr. Reginald Gibbs, Q.C.,
Mr. Alan Hollingworth &
Mr. John W. Lutes, for Foothills Pipe Lines Ltd.;

Mr. Russell Anthony &
Pro. Alastair Lucas for Canadian Arctic Resources
Committee;

Mr. Glen W. Bell and
Mr. Gerry Sutton, for Northwest Territories
Indian Brotherhood, and
Metis Association of the
Northwest Territories;

Mr. John Bayly
or
Miss Leslie Lane for Inuit Tapirisat of Canada,
and The Committee for
Original Peoples Entitle-
ment;

Mr. Ron Veale and
Mr. Allen Lueck for The Council for the Yukon
Indians;

Mr. Carson H. Templeton, for Environment Protection
Board;

Mr. David Reesor for Northwest Territories
Association of Municipal-
ities;

Mr. Murray Sigler for Northwest Territories
Chamber of Commerce.

Mr. John Ballem, Q.C., for Producer Companys;

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Inuvik, N.W.T.

January 24, 1976

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

THE COMMISSIONER: Well, we will come to order ladies and gentlemen. Well, the first thing -- as regards the evidence of Mr. Shaw, in the special circumstances here, I intend to allow Mr. Bayly to call Mr. Shaw and to give the evidence in the prepared statement. Where were we with regard to cross-examination of this panel?

MR. SCOTT: Mr. Bayly was in full stride.

MR. BAYLY: Mr. Commissioner, where I had left off was at the point where we were discussing the heavy modules that will be required at Parsons Lake plant and the logistics of moving those to the site and to where they will be assembled and we were discussing in that regard, roads. And I think gentlemen I'll ask you to agree if that is approximately where we left off yesterday.

ROBERT H. SCOTT,
JOHN C. STAMBERG,
HOWARD T. GUYN,
WILLIAM K. GOOD, resumed

CROSS EXAMINATION BY MR. BAYLY (CONTINUED):

Q And just to recap. The modules, you have said, weigh as much as 1200 tons, is that correct?

WITNESS STAMBERG:

A They could weigh that much.

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Cross-Exam by Bayly

1 Q And they could weigh as
2 little as 100 tons which is the figure I suggested to
3 you in my earlier question? It's in that range?

4 A Yes, I'd say so.

5 Q But whatever that weight
6 is, it's a weight -- I suggest to you -- that requires
7 the use of the Husky Lakes. If you are going to use
8 the Parsons Lake site, is that correct?

9 A That is our opinion at
10 this time, yes.

11 Q As I understand there is
12 no aircraft that could bring in a 1200 ton module and
13 perhaps not even a 100 ton module?

14 A That's correct.

15 Q And the other option that
16 would be open to you would be to bring it in either
17 by building a permanent road or by bringing it in over
18 the ice, neither of which would necessarily be
19 practical?

20 A Yes, I'd say that's right.

21 Q And would you go as far
22 as to say, that if the Husky Lakes route were not
23 available to you, you might have to choose an alternate
24 site to the Parsons Lake site?

25 A No. We would have to look
26 at all the transportation routes available and we
27 intend to. The movement of modules by barge obviously
28 affect the size of the module and if you haven't got
29 barge traffic available to you, then you must use a
30 much smaller weight or a much lighter and smaller

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Cross-Exam by Bayly

module.

Q Well, can the module be broken down into smaller components and transported either by air or by winter road?

A That's a possibility.

Q These aren't units that are all -- that all have to be factory assembled?

A That's correct.

Q Now, assuming though that you wanted to have them factory assembled and bring them on site, the most convenient way is to bring them around and through Liverpool Bay through the fingers of the Husky Lakes and to the Parsons Lake dock site.

A That's correct.

Q And if they weigh as much as a hundred to 12 hundred tons, are the barges that you have suggested you would use, big enough to carry that kind of a load? These 1500 series barges you referred to in your evidence?

A Those barges we were referring to as barges for moving drilling goods. I don't know what size barges we would require for moving modules. If indeed our studies showed that ocean going barges around Point Barrow was the optimum way to go. I don't know what size barges we would require for that.

Q Yes. But I'm just talking about the modules themselves. If you decided to use barges or some form of seagoing craft to carry these modules, what size would it have to be as a minimum?

Scott, ~~Stamberg~~, Guyn, Good
Cross-Exam by Bayly

1 Could it be as small as a 1500 series barge?

2 A It could be. It would be
3 a function of module size.

4 Q Right. Now what sort of
5 a draft has a 1500 series barge?

6 A I understand about 5 feet.

7 Q And, is that unloaded or
8 with a load?

9 A I believe that's loaded --
10 5 to 6 feet loaded, I believe.

11 Q And do you know what it
12 would draw if it had 100 tons on it?

13 A No, I do not.

14 Q Or 1200 tons?

15 A No, I do not.

16 Q And do you know whether
17 a 1500 series barge is wide enough to put your possible
18 range of modules on?

19 A They could be as I explained
20 earlier, though, Mr. Bayly, the size of the module or
21 what governs the size of the module to some extent has
22 to be related to barge size.

23 Q Right. You understand
24 and know, I suggest to you, that the people of
25 Tuktoyaktuk are very concerned with the possibility of
26 having to dredge Liverpool Bay and the Husky Lakes in
27 or to permit your barge traffic to get to Parsons Lake.

28 A Yes.

29 Q Your company's aware of
that?

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 A I'm aware of that.

2 Q And there's been correspond-
3 ence back and forth between the Tuk people and your
4 company concerning this?

5 A Yes.

6 Q And not only are they
7 concerned about the dredging of the Husky Lakes, but
8 they are concerned about the possibility of having to
9 scale the sides of the fingers, that is to scrape
10 away the sides to permit barges of sufficient width
11 to come into the Husky Lakes. You are aware of that?

12 A Yes.

13 Q And so, I suggest that
14 we may be looking at the necessity if you're bringing
15 in heavy modules this way, of dredging Liverpool Bay,
16 of scaling the fingers, and possibly dredging parts of
17 the Husky Lakes to permit passage of your barges.
18 Would you agree with me there?

19 A No, I would not. I'd turn
20 to Mr. Scott for a reply please.

21 Q All right, Mr. Scott,
22 could you respond to that.

23 WITNESS SCOTT: We do not have
24 any plans to dredge the Husky Lakes.

25 Q All right. I've given you
26 two other concerns of the people of Tuktoyaktuk, one
27 being the scaling of the sides of the fingers and the
28 other being the possibility of having to dredge
29 Liverpool Bay.

30 A It's our opinion that the

Scott, Stamberg, Guyn, Good
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1 traffic can move through the fingers without the
2 scaling that you refer to. We don't have any plans
3 to dredge in Liverpool Bay.

4 Q Now, is that something
5 that could change with your logistic plans?

6 A Well, you're talking with
7 future -- it could, but we don't anticipate it. Now
8 I think design can be built around some of those
9 constraints.

10 Q Are you prepared to say --
11 as Gulf Oil, that you will design your plans in such a
12 way that you won't require the dredging of Liverpool
13 Bay or the Husky Lakes or the scaling of the fingers?

14 A Our direct evidence that's
15 been filed said we do not plan to dredge in those water-
16 ways, I believe.

17 Q I think we're still a
18 little bit farther apart than I'd like to be. And
19 what I'm asking is, are you prepared to design your
20 logistic plans for the Parsons Lake plant so that this
21 will not have to be done and I realize at the moment
22 you don't have any plans for this, but the concern is
23 that your plans will change because of certain things,
24 because it's more economical, for example, to bring a
25 factory assembled module in.

26 A We will plan that way if
27 at all possible.

28 Q And when you say "if at
29 all possible", are you referring to the ability of
30 say people in the south to break down these modules for

1 you?

A That could be one of the
factors.

Q Could you outline the
other factors, if you know of any that would govern
whether you'd be able to fulfill your desire to avoid
dredging and scaling?

A I can't at this time.
That will be part of our design works that we propose
to proceed into. And we do plan to conduct further
environmental studies in the lakes to confirm our
opinions at this time. However, things like size,
weight, barge size and all of those factors I'm sure,
have a bearing on the points that you're making.

Q If you had to dredge
Liverpool Bay or the Husky Lakes, would you feel that
that was a responsibility of the company to perform
or would you ask the government to do that? Now the
reason that I ask you that is I understand that when
there were proposals to dredge the Tuktoyaktuk Harbor,
Dome Petroleum had suggested that that was the govern-
ment's responsibility. And the price tag on that was
some \$40 million. That project didn't go ahead but
this is a concern as well of the --

MR. BALLEM: I wonder, Mr. Commissioner
if we're not, with
/all respect to my friend, possibly wandering outside
the area of competence of these witnesses.

THE COMMISSIONER: I think
that's policy and even then it's, well, it may be that
Gulf can say what it's policy is. But surely you should

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wait for the policy witness.

MR. BAYLY: I'm prepared to ask that question of the policy panel, sir.

MR. BALLEM: Well, I would point out that it's also an imponderable it seems to me, but we'll await the event.

THE COMMISSIONER: You mean that if they do decide that they have to dredge, then who will they want to pay for it? Yes, I see that.

MR. BAYLY: In any event, perhaps I could put that to the policy panel and if they can't answer, then that's fine. They may be able to say whether they have been in negotiations concerning this between themselves and the government. Now, you've talked about having your environmentalists look at the Husky Lakes and without asking you to be an environmentalist, can we expect that they will be able to give some evidence on the -- on the Liverpool Bay and the species there and the possible effects of dredging?

A Well, as I say, we don't plan dredging at this stage but that environmental work is planned to proceed in the future and yes, we should have that kind of information.

Q But from this environmental panel, I take it this work hasn't been done, so I should --

A It's planned for the future.

Q Yes, all right. Now, if you can accept for a moment that you would desire

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

to have the heavy modules and accept that the Husky
Lakes route was not open to you, are there other
sites that Gulf Oil has looked at as possible locations
for their gas processing facilities? -- that might
still be available?

WITNESS STAMBERG:

We don't believe that
there is any other plant site -- or in the Parsons
Lake -- other than in the Parsons Lake area that
would be suitable for a plant site.

Q Is it not true that at one
time you considered the west end of Yaya Lake and
Swimming Point as alternate sites?

A We had considered that,
yes.

Q Are they still what we
might classify as preferred alternatives?

A No. We don't consider
them a viable alternate.

Q So if you can't build it
at Parsons Lake, you're not going to build it?

A I believe that's correct,
yes.

Q Now, I have asked the
other two petroleum companies about the possibility
of sulphur compounds being found in hydrocarbon dis-
coveries either at this proposed facility or in your
other holdings in the basin and do you accept that
there is a possibility that sulphur compounds might be
found?

WITNESS GOOD: Yes, we accept

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 that possibility.

2 Q And so far you're in the
3 same position as other companies then, that none has
4 been found?

5 A Yes.

6 Q And would you agree with
7 the Shell Oil position that if you found marketable
8 reservoirs of sulphur bearing hydrocarbons that you
9 you would go ahead and produce them and attempt to make
10 the necessary steps to avoid any damage from the
11 sulphur compound?

12 A I'll refer this question
13 to Mr. Guyn.

14 Q Mr. Guyn.

15 WITNESS GUYN:
16 A Yes, I think we could say

17 we have the expertise available to us to handle that
18 situation.

19 Q And, is there any way
20 that you can give us the predictability of finding
21 some sulphur bearing deposits in the twenty year pro-
22 jected life of this project in your holdings in the
23 delta basin, the Mackenzie basin?

24 WITNESS GOOD:

25 A I don't believe I can give
26 a definitive answer to this question. It's, in my
27 opinion, not very probable but it is a possibility.

28 Q Yes. I'd like to turn
29 now, if I may, to the concern of gravel. And you have
30 at page 2.30 of your big book, estimated the need for
31 one and one half million cubic yards of granular
32 material for the construction of the facilities as

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 projected at present at Parsons Lake. Is that correct?
WITNESS STAMBERG:

2 That's correct.

3 Q Does that include an
4 airstrip of 2500 feet or does that include the possibility
5 of a longer airstrip?

6 A That includes or is based
7 on a STOL strip -- a 2500 foot strip.

8 Q Now, you've heard the
9 evidence of the Shell Oil panel and they have said
10 that in order for maintenance, they would anticipate
11 requiring some 50,000 cubic yards per year. Have you
12 done similar projections of the amount of gravel or
13 other borrow materials you would require for maintenance,
14 either on a year to year basis or over the projected
15 life of the project?

16 A We have made some estimates
17 on the volume of gravel that's required for maintenance
18 purposes. Based on the information we have available
19 to us at this time we would estimate that in the order
20 of 5 per cent maintenance gravel would be required for
21 a period of one to two years following construction.
22 And, after that time we see only very, very small
23 amounts being required.

24 Q So that would be 75,000
25 cubic yards per year for the first two years plus a
26 smaller amount thereafter?

27 A Yes, considerably smaller,
28 thereafter.

29 Q When you say considerably
30 smaller, are you talking about half of that 75,000

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 or less than that?

2 A Less than that, I believe.

3 Q A quarter of that?

4 A I would estimate about
5 20,000 yards, maximum.

6 Q So another 360 thousand
7 cubic yards for the next eighteen years?

8 A That's a good approxima-
9 tion.

10 Q So, a total requirement
11 for the projected life of the project of somewhere in
12 the vicinity of two million cubic yards?

13 A Yes.

14 Q It sounds like we may be
15 able to tell our grandchildren we once saw the Yaya esker.
16 Now, would you contemplate the necessity of significant
17 quantities of gravel for filling sumps that are no
18 longer required?

19 A Not significant amounts.

20 Q How much does it require
21 to back-fill rig sumps?

22 A I don't have that number
23 available right now, we can supply it.

24 Q If I suggested to you that
25 it requires approximately ten thousand cubic yards per
26 rig sump, would you feel that that figure was in the
27 area?

28 A Sounds about right.

29 Q And you may require gravel
to fill up the sumps for exploratory rigs as well as

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 for production rigs, is that correct?

2 A Well, we wouldn't be
3 in
4 planning exploration drilling the Parsons Lakes area.

5 Q All right. You're aware
6 that your company in October of 1975 along with the
7 other two companies, made an application for a land use
8 permit for Reindeer F-36 for 20 thousand cubic yards
9 for back-filling sumps, are you?

10 A I'm not aware of that, no.

11 Q Right. Let me read the
12 letter that accompanies your land use permit to you,
13 and perhaps you could tell me whether this is an un-
14 usual case or whether you would feel that these gravel
15 demands may occur in these situations. The letter is
16 dated October 15, 1975 and it's on Gulf Oil Canada
17 Limited stationary and it's addressed to M. J. Morrison,
18 Superintendent of Northwest Lands & Forests, Indian &
19 Northern Affairs in Yellowknife and signed by Mr. G. G.
20 Habke, I believe it is ?

21 A Yes.

22 Q Dear sir: Subject applica-
23 tion for land use permit, Gulf, Imperial, Shell, Reindeer
24 F-36. October 15, 1975. Attached in quadruplicate is
25 an application for a land use permit for the subject
26 wellsite. Also attached is a map showing in red the
27 location of the wellsite and of the proposed access
28 road and our cheque numbered 076138 in the amount of
29 \$42.55 to cover the application fee and 10.51 acres.
30 The wellsite was previously covered by land use permit
31 N72 A 316 which expired May 30, 1974 A new permit is

1 required to re-enter the site to perform some additional
2 back-filling of the two rig sumps -- Camp sump and flare
3 pit. We estimate that 20 thousand cubic yards of gravel
4 will be required to accomplish this. Gravel will be
5 obtained from the Gulf Yaya gravel quarry. The work
6 is expected to be completed by the end of March, 1976.
7 If additional information is required, please contact
8 the undersigned in Calgary and a phone number is given.
9 Very truly yours, and signed, as I say, by Mr. Habke.

10 Now that seems to be additional filling of the sump
11 and it sounds like it had been filled before and re-
12 quired some maintenance. You may not be able to respond
13 to that.

14 A I can't respond to that,
15 no.

16 Q But would that be an un-
17 usual quantity to require for two rig sumps? A camp
18 sump and a flare pit?

19 A No, I wouldn't say so.

20 Q So we could expect those
21 kinds of quantities in the future even at exploration
22 sites?

23 A On some development sites,
24 we would require gravel for some filling. Our evidence
25 indicates, however, that on clusters where more than
26 two wells are proposed, that we would ^{propose to} dispose of our
27 mud system in a sub-surface formation and that would
28 minimize or reduce the number of sumps involved.

29 Q So you feel this would
30 minimize significantly the gravel requirements, at least

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 at some sites?

2 A At some sites, yes.

3 Q Now, the ^{Yaya} esker isn't
4 going to last forever at the present projected need for
5 gravel -- for not only your project, but for all the
6 others that seem to be involved in this projected
7 development -- and you people have holdings in the
8 Caribou Hills and one of the concerns that we have
9 in this area is that a logical gravel source from an
10 economic point of view at any rate would be the Caribou
11 Hills and is that something that you're company is
12 actively looking at?

13 A No.

14 Q They are a good
15 gravel source though, you'd agree with me there?

16 A Yes, certainly.

17 THE COMMISSIONER: And close
18 by the Parsons Lake development, too, I take it?

19 A Reasonably close, yes.

20 MR. BAYLY: Would you rule
21 out the possibility of using gravel from the Caribou
22 Hills for the Parsons Lake project?

23 A It's a possibility.

24 THE COMMISSIONER: Mr. Bayly
25 said you had holdings in the Caribou Hills, what --
26 what is meant by that? Leases or

27 A I think
28 think he's referring to surface leases -- or drilling
29 permit leases.

MR. BAYLY: That's what I was

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 referring to, yes.

2 THE COMMISSIONER: But you
3 have no right at the present time to take gravel from
4 the Caribou Hills?

5 A No sir.

6 MR. BAYLY: And you haven't at
7 this point made any application to the land use advisory
8 committee with regard to any gravel quarrying sources
9 in the Caribou Hills?

10 A No.

11 Q The map that accompanies
12 your evidence show several possible gravel sources
13 around Parsons Lake. They're just local sources that
14 are fairly small, I take it.

15 A Yes.

16 Q But you would intend to
17 use those before you would consider taking gravel from
18 the Caribou Hills?

19 A Yes. That's correct.

20 Q Have you projected any
21 long term demands for gravel that might necessitate
22 going to sources like the Caribou Hills or if they were
23 denied to you -- farther up river?

24 A No.

25 Q Is that something that
26 you will be doing prior to final design of this project?

27 A We would attempt to
finalize our estimates on our needs.

Q And would you project those
needs over the twenty year life of the project?

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

1 A Yes.

2 Q And the things that you
can't tell are the kinds of things that Mr. Horsfield
4 has suggested and those are related to any new finds
5 that are located in the area?

6 A Yes.

7 Q Perhaps even in the
8 Caribou Hills themselves?

9 A Yes.

10 Q Your evidence discloses
11 the kinds of barges that you would plan to use to bring
12 in your materials and the size of them, but it doesn't
13 disclose the frequency of barge traffic through the
14 summer months. Have you projected the number of barges
15 per month?

16 A No, we have not. Those
17 sort of studies would be undertaken in the future.

18 Q Now, I suggest to you
19 that you would have to do that before your environmental-
20 ists could properly assess the impacts say on the whale
21 population in Liverpool Bay? Is that correct?

22 THE COMMISSIONER: Well to be
23 fair to the panel, didn't Dr. Bliss take the position
24 there weren't any whales in Liverpool Bay?

25 MR. BAYLY: No. No sir. He
26 said that not all the whales were in Shallow Bay and
27 he told us that they were around in Liverpool Bay
28 as well. That was my understanding of his evidence.
29 I wonder if he is here, maybe he could tell us.

30 MR. BALLEM: No he went back

Scott, Stamberg, Guyn Good
Cross-Exam by Bayly

1 last night.

2 THE COMMISSIONER: Well at any
3 rate --

4 MR. BAYLY: We can check that,
5 sir.

6 THE COMMISSIONER: You can't
7 expect these gentlemen to tell us whether the
8 barge traffic will disrupt whales in Liverpool Bay.
9 I'm sure they -- with the best of intentions towards
10 the whales -- be there any in Liverpool Bay -- they
11 wouldn't be able to tell us. Let's try that on for
12 the environmental panel.

13 MR. BAYLY: I'm prepared to do
14 that sir. Perhaps you could tell us this though,
15 gentlemen. Will you have you're projected barge traffic
16 figures available before your environmentalists take
17 a look at possible consequences of your using this
18 route for transportation of equipment and supplies?

19 A I'm not sure I -- would
20 you repeat the question for me please?

21 Q Right.

22 A I still don't understand
23 what you are asking us.

24 Q You told that you will
25 have environmentalists looking at the area of Liverpool
26 Bay and the Husky Lakes.

27 A Yes.

28 Q And you've told us that
29 you will be doing projections of your anticipated barge
30 traffic and the frequency of barges during your shipping

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Cross-Exam by Bayly

season.

A Yes.

Q Will you have the information on barge traffic and frequency of barges during shipping season available for when your environmentalists are doing their assessment?

A Yes.

THE COMMISSIONER: Did you say Mr. Stamberg that -- you said that the large modules may weigh up to 1200 tons would be transported to the Parsons Lake site by barge up Liverpool Bay and through the Husky -- the Eskimo Fingers -- I've forgotten what they were called -- in the Husky Lakes to Parsons Lake that was the -- that applies to the heavy modules, does it apply generally to all of your material and supplies, will it all virtually be coming via that route?

A Not necessarily. We expect a significant portion of it would, but we haven't evaluated all the transportation routes available to us at this time.

Q Well, is there any other route by water that will allow you to bring supplies and materials to Parsons Lake?

A No.

Q Certainly, the only way to get those heavy modules there is by barge?

A Correct.

MR. BAYLY: I understand that not only do you have your environmentalists getting ready to study this, but EARP is studying the area of

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Cross-Exam by Bayly

the Husky Lakes and Liverpool Bay and do you have the results of their environmental review at your company?

A Not to my knowledge.

Q Any way of checking that, to find out whether those results have been given to your company yet?

MR. BALLEM: Sir, I would suspect that the representative on the environmental panel would have more direct information.

MR. BAYLY: All right, perhaps he could be alerted that that's a question I'll be asking.

MR. BALLEM: He probably is.

MR. BAYLY: Now, page 7 of your evidence. You refer to the possibility of a liquid topping plant being installed and the possible production of liquid hydrocarbons. You haven't made that decision yet, I understand?

A That is correct.

Q If you do decide that, would you making those liquid hydrocarbons commercially available to people in the area?

A Mr. Scott, please.

WITNESS SCOTT: Mr. Bayly, that's part of the decision as to whether or not we go with the topping plant. That decision has not been made but, yes, that would be considered as one of the alternatives.

Q Are you in the same position^{as} Shell that if there isn't very much, you'll use

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Cross-Exam by Bayly

1 it to power your own facilities and you won't be in
2 a position to sell it unless you've got a surplus?

3 A We would in all likelihood
4 would have more, but I would ask Mr. Guyn to comment on
5 that.

6 Q Have you any idea, Mr. Guyn,
7 how much there's likely to be?

8 WITNESS GUYN: I can't give
9 you details until our engineering is complete, of
10 course, but our inlet liquid volume will probably be
11 in the range of 4 to 6 thousand barrels per day and
12 you can break that down approximately to production of
13 diesel and naptha and so on. I can't give you figures
14 beyond that really, at this time.

15 Q That sounds like it would
16 be more than would be required to run your production
17 facility, would that be correct.

18 A Yes, you can say that, yes.

19 Q Now, one of the concerns,
20 going back to the transportation, is that certain of
21 the local people who are in the transportation business
22 may want to assist in the movement of goods. Will you
23 be able to tell them in time for them to plan for this
24 what equipment requirements in terms of safety standards
25 size of equipment, etc. will be imposed upon carriers
26 either by you or in cooperation with you and the
27 government? So that they would be able to equip them-
28 selves to handle some of this traffic?

29 WITNESS STAMBERG: We would
30 plan to undertake those sort of studies this year.

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

Q And when would the
results of those be ready?

A Probably about year-end.
The first part of next year.

Q Your chart
at figure two; that probably would give them six months
before the first barging season in order to get what-
ever equipment might be required or to bring their
existing equipment up to standard.

A I'm sorry, Mr. Bayly, I
missed the first -- your opening part of your question.

Q I correct in assuming that
your first barging takes place in the middle of 1977?

A That's our estimate, yes.

Q And you say by the end of
1976 you will know what equipment you require for
water transport and you know what standards will be
imposed?

A Yes.

Q And I'm saying that that
means about six months between your releasing that
set of requirements and the beginning of the barging
season.

A I would add, Mr. Bayly,
that our barging estimate for 1977 would contemplate
a very small volume of traffic. Basically, I think
we're looking at moving some equipment into the area
to begin gravel preparation work.

Q You'd be starting slowly,
then and the big movement would come

Scott, ~~Stamberg~~, Guyn, Good
Cross-Exam by Bayly

1 starting in the next year?

2 A Or the following year
3 after that.

4 Q Now, is ^{it} fair to ask you
5 or should I leave it for the environmental panel to
6 examine whether you have contingency plans for the
7 prevention of spills of fuels and other toxic sub-
8 stances into water from barges, or from on or off loading
9 sites?

10 A We don't have -- or this
11 panel has no comment on that. I would suggest that
12 it be directed to the environmentalists.

13 Q Now looking again at your
14 schedule on page 14 that is on the bottom paragraph.
15 You're talking about construction in various phases
16 proceeding all year round. Now, as you know that the
17 pipeline applicants have suggested a regime of winter
18 construction only. Have you thought of what this would
19 do to your schedule if the government imposed on you
20 the requirement of constructing only in the winter?

21 A I think there are two
22 different types of construction involved, Mr. Bayly.
23 When we speak of construction on a year round basis,
24 we're speaking of construction from a prepared pad.

25 Q The next sentence says
26 "that most of the heavy construction on projects such
27 as roads, pads, docks, airstrips, and gas gathering
28 systems will proceed actively in the summer and more
29 slowly in winter." Now that suggests to me and maybe
30 this isn't what it intends, that the pads themselves may

Scott, Stamberg, Guyn, Good
Cross-Exam by Bayly

be constructed in the summer.

A Once you have an initial
what you might call work pad or a base to work from,
then you can construct your pads during the summer.

Q So you'd contemplate
making a work pad perhaps in the winter and enlarging
it in the summer?

A That is correct.

Q That is something that is
still subject to regulation but you're confident that
that is an acceptable method of construction and that
you should get a permit for that.

A Yes.

Q Now, at page ten, you've
talked about disposal of liquid wastes and you've
talked about discharging it to nearby receiving waters
after secondary treatment. I take it that that
is not only includes human waste but also detergents
that are used in the kitchen, Javex and other cleaning
kinds of supplies that are used in kitchens and wash-
rooms.

A Yes.

Q And you're satisfied that
that is sufficient treatment or have your environmentalists
had a chance to give you their opinion on that?

A We believe that the --
a treatment to reduce the bio oxygen demand to 15 parts
per million is a -- is a satisfactory level.

Q How will you be handling
sewage problems at the dock site both from the --

mainly from the ocean going and river barges that come in?

A We haven't studied that, yet. That will be part of this year's work, I expect.

Q You may require the construction of holding facilities that will permit you to take that off the boats, would you agree?

A That's correct.

Q Now on pages nine and ten, you talk about perhaps discharging sewage into the ground. That is, waste waters. I should say waste waters rather than sewage, is that correct?

A Yes.

Q Now, has this ever been done in permafrost regions before? To your knowledge?

A Not to my knowledge, no.

Q Has anybody projected the possible effects of injecting large quantities of water into the ground in permafrost regions?

A We've made some preliminary estimates. We are talking I believe, Mr. Bayly about injecting these wastes below the permafrost level which in Parsons Lake is in the order of 1500 feet.

Q You're not concerned with that as a problem, then?

A I think it can -- the technical problems can be overcome.

Q What sort of a communication system are you anticipating between the Parsons Lake

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Cross-Exam by Bayly

plant and your head office or your control office in the south?

A I would expect telephone primarily as your main -- would be the main primary communication link.

Q Have you decided whether you would use a micro-wave system or whether you would hook into the Anik Satellite.

A We're studying that at this time, sir.

Q Who makes the decision with regard to the topping plant, is that yours or is that yours and governments together?

WITNESS SCOTT: I can answer that. I would think it's ours and governments together. But ours ultimately as to whether we will build it.

Q Yes. What part of it does the government look at? Do they look at the surrounding community needs or the possible pollution effects of a topping plant? Well, what is their role?

A We propose to both look at the surrounding community needs.

Q Now, we did a rough calculation just before ending last night and this is with regard to pilings.

A We did look last night by the way at the utilidors.

Q We did too.

A There was some ice fog around them too.

Scott, ~~Stamberg~~, Guyn, Good
Cross-Exam by Bayly
Cross-Exam by Scott
Q Right. I determined that

if the -- if the pilings were set approximately ten feet apart just looking roughly at your -- your diagram of your projected facility that you might require a minimum 8,200 pilings. Would that be a figure that you would say was in the range?

WITNESS STAMBERG: Yes, that's a reasonable approximation.

M R. BAYLY:

I have no further questions of this panel. Thank you, gentlemen.

CROSS-EXAMINATION BY MR. SCOTT:

Q Gentlemen, I -- do I refer questions relating to personnel to the socio-economic panel as I do with the other ^{oil} companies?

WITNESS SCOTT: Yes sir.

Q In your major text at page 2.60. 2.61, you refer to a -- a study being undertaken by Gulf and CAGSL, to determine I take it -- the location and the possibility of establishing a joint jet strip. Have I got that right?

A Yes, that may be advantageous to both parties.

Q When is it anticipated that that report will be available?

A I don't know.

Q Does anyone know?

A Well, that would, from our point of view be part of our phase one or design phase of the work.

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Cross-Exam by Scott

Q And I take it that that
phase is under way?

A No, it has not commenced.

Q Well, do I understand then,
that that report won't be prepared until after approvals
have been granted?

A Well, that would come
before approvals, I would think.

Q It will be done before
approvals?

A I would think that would be
part of the information submitted for approval.

Q Well, what I'm concerned
about is what are the prospects of our getting the
information that is represented in that report?

A Timing, I can't be precise
on, but when its available, yes, you would get it.

Q Well, as it effects the --
as it effects not only Gulf's interests but the
applicants interests, are you able to predict for us
in any fashion when it may be available?

A Probably toward the latter
part of this year -- the fall of this year.

Q I beg your pardon.

A Probably toward the latter
part of 1976, in the fall.

Q I take it that if you
proceeded to develop this airstrip it would require a
permanent road?

A I can say yes, but where?

1 Q Well, presumably to get
2 people from the airstrip to where ever you're flying
3 them in to get to, wouldn't it?

4 A Yes.

5 Q All right. And that would
6 be a permanent road of some length, wouldn't it.

7 A It would depend on where
8 the airstrip was.

9 Q Well, have you any estimate
10 of what kind -- or what length of permanent road is
11 involved in this proposal?

12 A No sir, we don't know the
13 location.

14 WITNESS STAMBERG: I would refer
15 you Mr. Scott, to the figure four of our material where
16 we show a location for a STOL strip and a tentative
17 location for a jet strip and an indication of the road
18 systems that would connect the two.

19 Q Well, is the airstrip that
20 is shown on figure four, the joint airstrip that is
21 proposed by -- or that is being considered by Gulf and
22 CAGSL?

23 A That is a proposed airstrip
24 location that we have established to date.

25 Q Well, what I'm concerned
26 about, I understand that figure four is your present
27 plan, have I got that right?

28 A Yes.

29 Q All right. Now at page
30 2.61, you say "we are considering developing jointly

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Cross-Exam by Scott

1 with CAGSL a permanent jet strip and we are doing a
2 study to determine whether we should do that". Now
3 is the airstrip that is shown on figure four the
4 permanent strip that is referred^{to} in paragraph 2.61?

5 A No.

6 Q Do you know where, or
7 approximately where, the permanent airstrip referred to
8 in paragraph 2.61 will be?

9 A No.

10 Q I take it, it is likely
11 however that if it is decided to proceed that way,
12 it will be somewhere else than the location shown
13 on figure four?

14 A Not necessarily, Mr. Scott.

15 Q Well, you just don't know?

16 A That's right.

17 WITNESS SCOTT: Could I refer
18 you back to those words in the evidence that^{it} is a
19 study that is proposed at this time in conjunction with
20 the pipeline company. We have not decided to proceed
21 with a joint airstrip.

22 Q You'll make that determin-
23 ation after the study?

24 A That is correct.

25 Q Is the study begun?

26 A Some preliminary work,
27 that's all.

28 Q And that doesn't lead you
29 to -- and in doing the preliminary work have you
30 considered locations?

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1 A Very generally and very
preliminary. One of them is shown on the figure four
I believe it is.

4 Q Is that the dotted lines
on figure four?

7 A Yes, I say one of them
but that's as we've already said, we don't know where
it may be and there could be other possibilities.

9 Q I take it that Gulf has
no objection to making that report available, when it's
available -- making it available to us?

12 A No objection.

13 Q Thank you. On page fourteen
of the prepared evidence there is a reference to snow
roads both in the development area and snow roads
necessary to connect the staging areas at Lucas Point
and the east channel with Parsons Lake. Now, I take
it that Gulf has some experience in the past in working
on snow roads.

19 WITNESS STAMBERG: Yes.

21 Q And in particular snow
roads in this general area of the country?

23 A Yes.

24 Q Well, now, can you give
us any help as to what -- as to the date on which
you can start running traffic on snow -- on snow roads?
That is, when does the season begin?

28 A About December 1.

31 Q Well now, in other evidence
we've had a breakdown of the commencement of the season

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in such terms as "earliest date", "latest date" for starting, and "average date". Is December the first sort of the average date?

A I believe so. We could supply you the -- some additional information on that if you wish, Mr. Scott.

Q I'd be grateful for whatever information you have that will give us a guide to your ^{own} knowledge about starting dates for the use of snow roads. If you can provide that to Mr. Ballem, I'm sure he can forward it on to us. Also, I wonder if you could do the same thing with respect to the terminal date, in respect of reasonably heavy traffic?

A Yes.

Q Thank you. Well now, I gather from your proposal that what is contemplated is the construction of snow roads annually along substantially the same route?

A Yes.

Q And that this will be done for at least several consecutive seasons?

A Yes.

Q Now, at this Inquiry, we've heard a good deal about the allegedly limited impact of -- on terrain, of a snow road that is utilized for one season where there are appropriate controls as to start up and shut-down. I wonder if Gulf has any experience with the effects on terrain of snow roads used over a number of consecutive seasons?

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Cross-Exam by Scott

A Yes, we have.

Q You have such roads?

A The road that we were referring to here has over the past several years, been used during the wintertime.

Q Yes. Is there -- is there anywhere at Gulf an analysis, whether in a simple or complex form, I don't care, about the effects of that kind of utilization of a snow road?

A I'm not sure.

Q Could you inquire and, if possible let us have at -- either that or the judgment of this panel as to effects?

A Yes.

MR. BALLEM: Just so we understand -- I certainly understand that if there is a study or an analysis available, but I'm not sure what that second part was-- the judgment of this panel.

MR. SCOTT: Well.

MR. BALLEM: Maybe you should ask them now, if they have one.

Q Well, if there is a study available, I would like them to have the opportunity to refer to it, because that no doubt will found the opinion they want to express. I presume. Would it?

MR. BALLEM: Well, the obvious concern is they may not be able to have a really useful opinion on that, but --

Q Well then perhaps they

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Cross-Exam by Scott

1 can have -- let me have, through you Mr. Ballem, a note
2 of their judgment about the consequences pro and con
3 in utilizing a snow road over a number of consecutive
4 seasons.

5 MR. BALLEM: That's fine.
6 If there

7 MR. SCOTT: / isn't a study,
8 I presume it will be reasonably subjective. Well now,
9 on page 4-1 of the big book there is--
10 well perhaps I'd better get it out -- there is a
11 reference about half way down the page or -- actually
12 it's almost -- to the possibility, indeed the
13 inevitability as you express it, of some soil erosions,
14 slope instability and perhaps thermokarst in the
15 Parsons Lake region. You go on to say with respect
16 to that possibility or inevitability that "care in
17 the citing of roads and facilities as well as use of
18 gravel and other insulating material and solicitous
19 construction and follow-up procedures would minimize
20 their occurrence and impact". Now, we've heard a good
21 deal about the importance of careful sighting and the
22 protection of the ground surface with gravel and
23 solicitous construction -- I think that's a new way
24 to describe what we've heard a good deal about -- but
25 I want to -- I would like you to help me to determine
26 what you mean when you refer to "follow-up procedures"
27 in that paragraph? If trouble starts, how do you
28 expect by "follow-up procedures" to alleviate it?

29 A I would say, Mr Scott, that
30 refers to -- to maintenance procedures. In other words,
31 if there is settlement of the gravel fill on a road,

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Cross-Exam by Scott

1 we would expect to build it up again.

2 Q Well, are you simply
3 talking about dumping more gravel, if there's sub-
4 sidence or something like that, or is there some
5 kind of procedure of ^{which} you are aware that will arrest
6 or modify thermokarst and the other developments to
7 which you're referring?

8 A No. No procedure that I'm
9 aware of other than applying more gravel.

10 Q Well, is it possible, then
11 that what we've referred to as a paragraph but perhaps
12 isn't to use your phrase "as solicitously written" as
13 it might have been? There is no follow-up procedure
14 that will -- of which you're aware -- that will alter
15 these processes once they've begun.

16 A Not that I'm aware of.

17 MR. SCOTT: Those are all the
18 questions I have. Thank you very much, gentlemen.

19 MR. RALLEM: I have no questions
20 in redirect sir.

21 THE COMMISSIONER: Thank you
22 very much members of the panel. We appreciate your
23 having given us the benefit of your prepared testimony
24 and having answered questions so helpfully. So
25 we'll stand this panel down and adjourn for coffee
26 and then commence the environmental panel.

27 (PROCEEDINGS ADJOURNED FOR A FEW MINUTES)

28

29

30

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

MR. BALLEM: We are now ready with the environmental panel, but before doing so I've been asked to make a correction of one piece of factual information that the last panel gave. They responded to a question as to the average start-up of the construction of ice roads as being the first of December. I'm now advised that the average date should be sometime during the first week of November, so I would ask that that be made on the record.

MR. HOLLINGWORTH: Mr. Ballem, I understood Mr. Scott asked when the start-up of use was, not the start-up of the construction which I believe is what your response was.

Maybe I'm misquoting Mr. Scott.

MR. SCOTT: It was, but I take it that they are going to provide their information on this subject generally.

MR. BALLEM: They are indeed, and it appears that we do have information, but I wanted to correct it, or I was asked to correct that date because apparently it is incorrect.

MR. SCOTT: Well what is the start-up date for use, Do we know that?

GORDON ROBERT APPLETON
GERHARD REMPEL
ROBERT WEBB
MAX EUGENE WOPNFORD, sworn:

WITNESS APPLETON: That would

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1 depend on how long the road is.

2 MR. SCOTT: I beg your pardon?

3 A That would depend on how
4 long the road is and the distance between the sites.
5 Relatively, you can use the road within a few days after
6 you've started to build it, and as you continue using it
7 you build up the road to a higher standard.

8 THE COMMISSIONER: At any rate
9 sir, you say that Gulf can, Gulf begins construction of
10 snow roads November first and obviously as soon as you
11 have a usable length of road laid down, you can start
12 using it. That's the size of it eh?

13 A Yes sir.

14 DIRECT EXAMINATION BY MR. BALLEM:

15 MR. BALLEM: Mr. Commissioner
16 this panel consists of Gordon Robert Appleton, Gerhard
17 Rempel, Robert Webb and Max Wopnford, and it is a little
18 different from the previous panels, in that it consists
19 of representatives from each of the three companies, to-
20 gether with Robert Webb, who is associated with Slaney
21 and Associates and will of course respond to questions
22 relating to the materials from that firm which have been
23 filed; so I will , as we go along, qualify these
24 witnesses as to which company each represents and obvious-
25 ly questions that are company particular should be directed
26 to that person. Mr. Rempel will actually read in the ev-
27 idence, so I would now ask them if they would qualify
28 themselves, starting with you Mr. Wopnford if you would?

29 Q What is your present posi-
30 tion with Shell, Canada?

WITNESS WOPNFORD: I'm presently

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Chief of
Environmental Affairs for Exploration and Production.

Q And could you briefly advise the Board as to your background and business activities.

A I was raised in northern Saskatchewan and educated through high school there. After two years in the Canadian Navy, I spent four years at the University of Saskatchewan in Civil Engineering. After that I was District Engineer in northern Alberta with Ducks Unlimited and in 1950, I started working in the petroleum industry. During 1952-54, I was resident in the N.W.T. managing a drilling operation. I joined Shell in 1954 as an Operations Assistant for the N.W.T. and I've continued with Shell in various capacities since then. I'm primarily connected with Northern Operations. In 1970 I was a member of the Mackenzie Valley Task Force on the effects of exploration, and I have been Chairman of the A.P.O.A. this past year.

I presently reside in Calgary, at 1214 Varsity Estates Road and work out of Shell Canada Calgary office.

COMMISSIONER: What's A.P.O.A.
Mr. Wopnford?

A Arctic Petroleum Operators Association.

Q Thank you Mr. Wopnford, and now Mr. Webb, will you give the Commission your present occupation?

WITNESS WEBB: Yes, I'm an Environmental Consultant, representing here F. F. Slaney

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1 & Company Ltd., 402 W. Pender, Vancouver, B. C.

2 Q And would you briefly out-
3 line your academic and professional qualifications sir.

4 A I have a Bachelor of Arts
5 degree from the University of British Columbia, in Zoo-
6 logy with specialization in wildlife management. My
7 employment background began with the Alberta Fish and
8 Wildlife Division; I was a Wildlife Biologist there from
9 1954-67. Four years were spent in Manitoba as Chief,
10 of Game and Fur Management and then latterly, Chief of
11 Wildlife Operations for the Province of Manitoba. Since
12 1971, I have been directing environmental studies and
13 other environmental programs for F. F. Slaney & Company
14 as an employee, and latterly under contract.

15 Many of the programs that I
16 have studied, or that I have directed for F. F. Slaney
17 & Company have been associated with energy projects in
18 northern Canada.

19 Q All right sir. Mr. Rempel
20 would you please advise the Commission as to your present
21 position.

22 WITNESS REMPEL: I'm a Frontier
23 Planning Advisor, with Imperial Oil Limited, in Calgary
24 Alberta.

25 Q And would you please, brief-
26 ly outline your educational, professional and business
27 career please.

28 A I graduated in Bachelor
29 of Arts (Physics), from the University of Saskatchewan
30 in 1947, and following a year of some extra studies, I

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1 joined Imperial Oil, and have been with them ever since.
2 From 1948-1966 I've held various positions and responsi-
3 bilities, related primarily to field exploration work,
4 such as Seismic Party Chief, Exploration Equipment Engi-
5 neer, Geophysical Operations Supervisor including ro-
6 tation assignments in geophysical interpretation and geo-
7 physical field techniques. Since, about 1966, I have
8 had various positions and responsibilities related to
9 north of 60 degrees in exploration such as arctic spec-
10 ial projects, N.W.T. District Field Operations Co-ordin-
11 ator and frontier planning.

12 Q Mr. Appleton, would you
13 please advise the Commission as to your present occupa-
14 tion and position with your company?

15 WITNESS APPLETON: Yes. I am
16 Co-ordinator Logistics Delta Project- Gulf Oil Canada,
17 Calgary.

18 Q And would you briefly out-
19 line your academic and professional and business qualif-
20 ications.

21 A Following graduation from
22 the University of Windsor with a Bachelor of Applied
23 Science in Civil Engineering in 1969, I joined Gulf Can-
24 ada in the Exploration and Production Department. In the
25 spring of 1970, I worked as a member of the A.P.O.A. re-
26 search team investigating ice movements and soil condi-
27 tions in the Beaufort Sea. Following these projects, I
28 was involved in assessing the environmental aspects
29 of exploration in the North, particularly in the Macken-
30 zie Delta. I then became involved in the drilling and

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1 engineering functions of Gulf's operations in the North.

2 In the spring of 1972, I was
3 Canada's
4 instrumental in setting up Gulf / Base Camp at Swimming
5 Point. During this project and continuing afterwards,
6 I was involved in the engineering and field aspects of
7 logistical and planning activities. In June of 1974, I
8 was appointed Co-ordinator Logistics and was responsible
9 for all the logistical activities of our Drilling sec-
tion.

10 In June 1975, I was appointed to
11 the position of Co-ordinator Logistics - Delta Project
12 to help plan the logistical requirements for the explo-
13 itation of hydrocarbons in the Mackenzie Delta.

Thank

14 MR. BALLEM: /you Mr. Appleton.
15 Mr. Commissioner, I would now propose to file a copy
16 of the prepared evidence as an exhibit and I would ask
17 Mr. Rempel, if he would be good enough to read that ev-
18 idence into the record.

19 (QUALIFICATIONS AND EVIDENCE OF APPLETON,
20 REMPEL, WEBB, WOPNFORD MARKED EXHIBIT 429)

21 WITNESS REMPEL: Environmental
22 studies to establish base-line data from which to assess
23 the effects of the proposed development, began in 1972
24 and have extended into 1975. These studies were primarily
25 conducted by a consultant firm, F. F. Slaney & Company.
26 Project manager for F. F. Slaney & Company on the Envir-
27 onmental Assessment program for the Producers is Bob
28 Webb, who is on this panel.

29 In conjunction with the Envir-
30 onmental Consultant, a study area concept was developed

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1 based on locations of exploratory well sites, staging
2 areas and gravel deposits. The general area included in
3 the investigation extended from Parson's Lake in the
4 east to contiguous areas in a large segment of the outer
5 Mackenzie Delta, encompassing Ellice-Langley, Richards
6 Island and other islands. All major components of the
7 physical and biological environment were investigated
8 under the general categories of :Meteorology and Climate,
9 Hydrology, Birds, Mammals, Land and Vegetation, Aquatic
10 Resources, and Environmental Quality. To supplement
11 data gathered in the field, a thorough search of scien-
12 tific literature was maintained.

13 While the environmental programs
14 were proceeding, the Producers were formulating plans
15 and design concepts for development of Mackenzie Delta
16 gas reserves. Since standards and guidelines for envir-
17 onmental impacts were in their infancy when this work
18 was initiated, communication and feedback with regulatory
19 agencies and knowledgeable arctic specialists were esta-
20 blished at an early date. This type of interface is ex-
21 emplified by the review of the F. F. Slaney & Company en-
22 vironmental program which took place with interested par-
23 ties from the Department of Indian Affairs and Northern
24 Development, Environment Canada and other government
25 agencies, including the Government of the Northwest
26 Territories, in Edmonton in May of 1972.

27 An interim data report was pre-
28 pared in January, 1973. This interim report received
29 wide circulation and was presented formally to the Land
30 Use Committee in Yellowknife in March 1973. It was spec-

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1 ifically reviewed by several other government agencies,
2 including the Canadian Wildlife Service. Response to
3 this interim report helped the Producers to better direct
4 their effort during the final stages of the studies.

5 In June, 1975, the Producers
6 were advised that the gas development project would be
7 submitted by the Department of Indian Affairs and North-
8 ern Development to Environment Canada for evaluation
9 under the Environmental Assessment and Review Process.
10 Correspondingly, the Producers have provided environmen-
11 tal and technical information relevant to their respect-
12 tive applications for land tenure.

13 The backbone of the environmen-
14 tal protection program of the Producers is contained in
15 the nine-volume report by F. F. Slaney & Company which
16 are as follows:

17 Vol. 1 Meteorology and Climate

18 Vol. 2 Hydrology

19 Vol. 3 Landform and Vegetation

20 Vol. 4 Birds

21 Vol. 5 Mammals

22 Vol. 6 Aquatic Resources

23 Vol. 7 Environmental Quality

24 Winter Study Supplement Volume

25 Impact Assessment Volume.

26 The volumes 1 through 7, along with the Winter Study
27 Supplement, detailed the results of intensive and exten-
28 sive field work from 1972 into 1974 to gather baseline
29 information which was unavailable from other sources.
30 General objectives of these field programs were to ob-

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tain an understanding of basic ecological relationships,
to determine the type and extent of resource utilization
by humans, and to provide a factual basis for projections
of the type and extent of environmental impact. The
field program results and impact assessment of the pro-
posed gas developments as envisaged in early 1974 are
summarized in the ninth volume which is titled "Impact
Assessment", May, 1974.

Notwithstanding the changes in
project plan details that have occurred and will continue
to occur right up to final design, the Producers believe
this assessment is still appropriate. Some examples of
the assessment by F. F. Slaney & Company of the impact
of the project on the atmosphere, landform and vegetation
hydrology, birds, mammals, aquatic resources, and human
use of resources are as follows:

ATMOSPHERE

Construction machinery and
routine road traffic would generate to the atmosphere
small amounts of gaseous emissions. Direct effects
would be local only and would not have a major effect
upon air quality.

The gas plants would act to
produce a heat island effect at their sites. Water
vapour emitted from the plants would locally form fog,
reduce net radiation to the ground, and increase rela-
tive humidity. Under certain winter conditions, ice
fog would build up near the plants. The above atmospher-
ic effects should not have a major effect upon the en-
vironment.

1 Incineration of solid refuse and
2 waste would disperse some unburned material to the at-
3 mosphere during fire-up only. Any effect would be re-
4 stricted to the immediate vicinity of the incinerator.

5 LANDFORM AND VEGETATION

6 Construction of the roads conn-
7 ecting well clusters and gas plants would alter drainage
8 and flood patterns on some adjacent acreage, resulting
9 in possible changes in vegetation type. Design and con-
10 struction would incorporate measures to avoid or mini-
11 mize drainage re-distribution or surface slumping. The
12 Taglu and Niglintgak developments are in the broad, flat
13 floodplain of the Mackenzie River with correspondingly
14 low potential for slumping. The development plans,
15 however, include provision for detecting and preventing
16 the disturbance of unstable terrain, so that any problems
17 that might occur would be minor and without serious
18 effect.

19 In the Parson's Lake develop-
20 ment, sections of road would traverse areas with a some-
21 what higher potential for slumping. Appropriate loc-
22 ation, design and construction, including bridging,
23 would minimize vegetation and terrain changes.

24 Vegetation under airstrips,
25 permanent pads, facilities and roads would be destroyed.
26 However, in every case, enough insulating material would
27 be provided to maintain the integrity of the permafrost.
28 The amount of terrain, less than 1,000 acres in total,
29 lost in this manner would represent a very small prop-
30 ortion of that available to vegetation types in the area.

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To assess effects of the emissions from processing on the local atmosphere, maximum concentrations of nitrogen dioxide were calculated for the worst atmospheric conditions possible at two different times of the year. Estimated ground level concentrations of nitrogen oxides emitted from the gas plant turbines are below what is considered toxic to vegetation. Since, the gas discovered in the area is sweet, no sulphur dioxide will be emitted.

HYDROLOGY

Installing permanent roads and other gravel-based facilities in the Taglu and Niglintgak areas would affect local drainage patterns. Culverts and proper positioning of roads would help minimize this effect by allowing freer passage of water.

In the Parson's Lake area, the proposed all-weather road system would cross some steep slopes and could hence pose a threat to drainage patterns and slope stability. Some road sections would pass through lowlands and intercept broad, diffuse drainage patterns. In these areas, temporary impediment to drainage may occur. There would be some additional siltation of streams and adjoining lakes, as well as some unavoidable slope erosion, but the use of bridges and culverts would minimize these effects.

Gravel excavation will result in some surface area disturbance when pits are located in hilly areas. Special controls will be implemented to prevent the subsequent siltation of lakes.

Process waters from the gas

plants and liquid wastes from the camp would be suitably treated before discharge to satisfy government standards for disposal. Excess heat from the discharged plant water might affect ice cover in the immediate vicinity. Produced water will be re-injected to a suitable formation.

BIRDS

Habitats would be directly disturbed by the building of roads, gravel pads, docks, and airstrips over existing natural vegetation, while movement of men and equipment at these locations might prevent some species from using surrounding habitats. However, restrictions on activities, such as directed personnel movement and specific flight pathways, would help to keep the effect on birds to a minimum.

Total numbers of nesting birds expected to be displaced by the proposed development and associated activities are small when compared to numbers of birds in the total area which is 990 square miles surveyed. In particular, the snow goose nesting colony south of Kendall Island is located sufficiently far from the proposed Taglu and Niglintgak plant sites to be well outside the range of disturbance by gas plant sound emissions. Using information gained during two years of aerial and ground surveys in the outer Mackenzie Delta, maps were prepared by the consultant outlining areas of intensive bird use. Development plans as outlined do not impinge on these high-use areas. This assessment, it is emphasized, also applies to those portions of the development which are within the Kendall Island

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1 Migratory Bird Sanctuary.

2 MAMMALS

3 The construction and use of
4 permanent roads would affect mammals by taking a small
5 amount of land out of production, presenting an obstacle
6 to movement, and disturbing more wary species through
7 traffic and equipment noise. Reindeer should have little
8 difficulty in crossing roads in the development area.
9 Grizzly bears would probably avoid any area close to the
10 travelled roadway. Grizzlies are particularly vulnera-
11 ble in winter, when road construction and use might
12 rouse them from their dens. Because of their low numbers
13 and their value as a resource, special care would be
14 taken to avoid disturbance of grizzly bear den sites.
15 The effects on small mammals and muskrats are expected
16 to be minor.

17 AQUATIC RESOURCES

18 Stream and channel crossings
19 for permanent roads would lead to temporary siltation of
20 the water body. For streams used by migratory fish pop-
21 ulations, suitable culverts or bridges would allow unre-
22 stricted movement.

23 Dredging channels where re-
24 quired to improve access will create increases in suspen-
25 ded sediments. However, increases will be generally over-
26 shadowed by naturally high sediment loads in all but late
27 summer or fall. Dredging is not planned in the Eskimo
28 Lakes and other potential dredging sites have not been
29 determined.

30 Water for the gas plants will

1 be drawn from large reservoirs, with little expected
2 effect on the areas' aquatic resources.

3 HUMAN USE OF RESOURCES

4 The taking of geese and other
5 waterfowl by native people of the three Delta communities
6 of Aklavik, Inuvik and Tuktoyaktuk would be essenti-
7 ally unaffected by the proposed development, since the
8 traditional hunting areas would not be directly subject
9 to industry staging areas, gas plants, clusters, or
10 gathering systems.

11 Some increase in grizzly bear
12 hunting by natives might result, because of the greater
13 accessibility in the area.

14 The Producers would not allow
15 firearms at development or construction sites, thus
16 avoiding direct increase in hunting pressure. An excep-
17 tion could be made for protection of personnel but such
18 firearms would be under strict supervision. However,
19 construction or operations personnel could plan hunting
20 trips for waterfowl from one of the Delta communities,
21 thereby increasing hunting pressure. This, however,
22 would be subject to government control.

23 No reduction in fur trapping
24 potential is anticipated, as the acreage under develop-
25 ment is small, and no trap lines in the area would be
26 lost or destroyed.

27 Domestic or commercial fisher-
28 ies should not be greatly affected by the development.
29 Some over-exploitation, possibly in Yaya Lake, could
30 result unless controlled by regulatory measures. The

1 potential for over-fishing is present to a lesser extent
2 in other lakes on Richards Island, and perhaps in Parsons
3 Lake.

4 ARCHAEOLOGY

5 A preliminary archaeological
6 investigation by G. J. Fedirchuk, under the direction of
7 Dr. James V. Millar, Head and Professor of Archaeology,
8 University of Saskatchewan, indicated that in general,
9 the locations proposed for production and plant sites,
10 pipelines, roads, airstrips and gravel supplies have a
11 minimum probability of impinging on archaeological sites.
12 Since this preliminary work was done, it has been con-
13 firmed by a government archaeologist that there is little
14 possibility of archaeological sites in the Taglu and
15 Parson's Lake development area. Additional archaeologi-
16 cal assessments could be required at Niglintgak as loc-
17 ations to be disturbed have only recently been deline-
18 ated, although the preliminary investigation indicated
19 the area unlikely to be of archaeological interest.

20 PLANNING AND CONTROL

21 The project planning was it-
22 self a product of ^a continuing liaison between the Produ-
23 cer's design engineers and the environmental consultant
24 representatives and incorporated measures to mitigate
25 adverse environmental impact. In order to ensure that
26 construction and operational practices conform to these
27 environmental criteria, the Producers plan environmental
28 training programs for construction and operating person-
29 nel along with a follow-up monitoring and surveillance
30 network. As a final measure, contingency plans will be

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1 developed which will minimize the effects of accidental
2 spills of deleterious substances. The oil industry in
3 the Delta formed a co-operative unit a few years ago to
4 combat any spills that might occur. Each of the Produ-
5 cers is a member of the joint effort which is known as
6 the "Delta Environmental Protection Unit". The Delta
7 Environmental Protection Unit has oil spill clean-up
8 equipment and materials stored at various base camps in
9 the Delta.

10 MR. BALLEM: Thank you Mr.
11 Rempel. This panel is now available for cross-examina-
12 tion.

13 MR. MARSHALL: Thank you sir.

14
15 CROSS-EXAMINATION BY MR. MARSHALL:

16 Q Mr. Rempel, the last item
17 that you mentioned in your evidence, related to the Delta
18 Environmental Protection Unit, and I wondered sir if you
19 might give us some greater degree of detail about that
20 organization.

21 To begin with, sir, could you
22 explain who the participants are and the manner in
23 which the organization has been set up?

24 WITNESS REMPEL: I was alerted
25 to this possible question and I have a few notes here
26 to help me along.

27 THE COMMISSIONER: Well, carry
28 right on sir, we understand.

29 MR. MARSHALL: I alerted him
30 sir.

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Cross-Exam by Marshall

1 A Before discussing the Fire
2 Department, so to speak, I would emphasize that the Pro-
3 ducers have placed a top priority on prevention of spills
4 including such things that we have done as safe handling
5 and transfer of fuels, practices as well as dyking and
6 other measures as are indicated in the various submiss-
7 ions of the applications.

8 Now with the establishment of
9 base camps in the Delta, the Producers each developed
10 contingency plans to respond to possible spills that
11 might occur, at these ^{various} major fuel cash points. Princi-
12 pally at Bar C, Camp Farewell, Swimming ^{Point} and Tuktoyak-
13 tuk.

14 Each well, in addition of course
15 as part of the drilling permit, also requires a contingen-
16 cy plan for possible spills.

17 Now, based on the experience
18 of the Industry in Alberta, Saskatchewan and North East
19 British Columbia, the advantage of pooling the resources
20 of the main staging areas became obvious. So accordingly
21 in 1972 a co-operative, subsequently named the Delta
22 Environmental Protection Unit, D.E.P.U. for short was
23 formed. At the present time there are seven members,
24 and each of the three producers is a member, Chevron,
25 Elf, Hunt --how many have I got--and Sun.

26 The main base for D.E.P.U.
27 equipment is at Bar C which is the Imperial installation.
28 Both Gulf and Shell have their own equipment as well as
29 Imperial Oil, and the Gulf and Shell equipment at both
30 Swimming Point and and Camp Farewell for oil-spill clean

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up are available on an emergency basis to the D.E.P.U. organization.

The D.E.P.U. equipment is a specialized type that was modified to fit air deliverable jet boats, which were manufactured in Edmonton.

In 1973 and 1974, training exercises were carried out under the direction of the D.E.P.U. foreman who was based at Bar C. Further tests of the mobility of the equipment were carried out in the summer of 1975. Government officials have been observing some of the tests and have inspected the equipment at these locations.

I do have here a list of the equipment which D.E.P.U. has at the Imperial staging areas, and you must of course realize that additional and back-up equipment is also available at Hay River, Yellowknife and Norman Wells.

Now a complete listing of the oil spill equipment in the North and throughout Canada is available from the Environment Canada, National Emergency Equipment Locator System. Imperial, as I assume the other companies perhaps, through our Systems and Computer services has access to this program, so we do have a good back-up in the event--

Q Just, if I may stop you there, do I understand correctly that the Government of Canada has computer facilities in which they store all the information about the available clean-up equipment?

A Yes.

Q The operators, then, feed

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Cross-Exam by Marshall

1 into that central source, the lists of equipment they
2 have available?

Yes.

3 A I'm not sure that all op-
4 erators have that kind of a facility to be able to do
5 that but, I think most of them do. I don't think it
6 would help to read a list of all this equipment that is
7 available at these various places.

8 Q Mr. Rempel, could you tell
9 us if the D.E.P.U. organization has had to become opera-
10 tional to cope with any emergencies to date?

11 A As far as I can remember,
12 we have had no large emergencies, to, we've had these
13 excercises.

14 Q Could you tell us some-
15 thing about how the organization would come into action
16 in response to an emergency? What would be the trigger-
17 ing mechanism, and what steps would be taken to get the
18 equipment to where it was required with the appropriate
19 crews?

20 A Well, the triggering mech-
21 anism is every producer, has a so-called emergency
22 response plan at which specific people are designated with
23 various responsibilities, one of which includes immediate
24 notification and reporting of the spill, to Government
25 agencies.

26 Q Mr. Commissioner, the
27 reason for going into this subject, was that Mr. Scott
28 had asked that it be covered. He had asked Mr. Hemstock
29 for some information. We provided a certain amount of
30 information but ^I thought we ought to take advantage of

1 the producers being here to have a little more detail
2 put on the record and perhaps if Mr. Goudge has further
3 interest
in this subject, he may want to follow up on it.

4 My other area of questioning is
5 for you Mr. Webb, and it relates to the work done by
6 Slaney, on the study of whales. I mentioned to you the
7 other day that I'd want to ask you about this, in light
8 of the questions that were addressed to some of the ear-
9 lier panels

10 Would you begin Mr. Webb, by
11 telling us about the research work that was done by the
12 Slaney organization on whales?

13 WITNESS WEBB: Certainly, Mr.
14 Marshall.

15 Beginning in 1972, we have con-
16 ducted intensive surveys of a monitoring nature in the
17 Mackenzie River estuary. Each summer since 1972, inclu-
18 ding the current summer.

19 Q What were the objectives
20 of the research?

21 A Initially, to monitor any
22 effects of off-shore island construction on whale dis-
23 tribution and behaviour and on the harvest rates of
24 whales by the native peoples. This orientation towards
25 off-shore island construction and the relationship of
26 white whales to it has continued.

27 Q What was your role in the
28 work that was done, sir?

29 THE COMMISSIONER: Excuse me,
30 you said to study the effect of off-shore ^{island} construction

1 on, you said the taking^{of} whales by natives, but you said
2 something before that.

3 A Their distribution within
4 the estuary, I believe sir.

5 THE COMMISSIONER: Right. Yes,
6 sorry Mr. Marshall.

7 MR. MARSHALL: That's fine sir.
8 Could you define more fully,
9 the study area, Mr. Webb.

10 A Essentially, it was from
11 Tent Island on the West, across to and including Kugmallit
12 Bay on the eastern part of the Delta.

13 Q Perhaps, by reference to
14 this map, you could just point out the extent of the
15 area, in which your studies were carried out.

16 A Certainly. We conducted
17 periodic aerial surveys from approximately here, all away
18 around to and including Kittigazuit Bay.

19 Q The beginning point was
20 around Tent Bay?

21 A West of Tent Island. Just
22 Whitefish Station, our biologist visited with the people
23 fishing and whaling from Whitefish Station. Surveys began there.
24 The transaction ran from generally that area up to fifty
25 miles out in some cases but generally the more intensive
26 surveys were taken within ten miles of the outer limits
27 of the Delta.

28 Q What about Shallow Bay
29 itself.

30 A Yes. A survey was run each

1 summer in Shallow Bay and counts were made of whales and
2 their pattern of distribution determined.

3 THE COMMISSIONER: Do you want
4 Mr. Webb to remain there, or--

5 MR. MARSHALL: I think he could
6 probably sit down sir and have a mike handy that way.

7 Q Do I understand correctly
8 Mr. Webb, that Whitefish Station is the location that's
9 used by the native peoples for harvesting whales?

10 A It's one of several used
11 by native peoples. The majority of the people using
12 Whitefish Station west, are from Aklavik. There are
13 other stations generally occupied by people from other
14 parts of the Delta.

15 Q Where are they located?

16 A One is on Kendall Island,
17 but the main stations are in Kugmallit Bay, on the main
18 coast, and of course townspeople from Tuktoyaktuk vent-
19 ure out to whale on a daily basis as well.

20 Q Could you describe, sir,
21 generally what the findings were as to the distribution
22 and movements of whales and their numbers?

23 A Essentially, their distri-
24 bution was determined by the ice conditions , that were
25 pertinent at the time of observations. Whales essenti-
26 ally arrived in late June or early July, and stayed un-
27 til about mid-August. Their tendency was to seek out
28 the shallower areas in the mouths of the main channels,
29 presumably because of the pleasing, or beneficial eff-
30 ects of the warmer Mackenzie River waters. Their num-

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1 bers varied from approximately fifteen hundred in the
2 year 1974 when ice conditions were a little more severe,
3 to about four thousand last year.

4 Q Was there any detectable
5 pattern to the movement of the whales during this period
6 in which they were observed to be in the area of the
7 Mackenzie Delta?

8 Q Generally speaking, they
9 arrived first in Shallow Bay, however, in the years when
10 the ice pack was a little late in breaking up, they
11 arrived almost simultaneously in Shallow Bay and Kug-
12 mallit Bay. In the years that they did arrive first in
13 Shallow Bay, there was a tendency for the Shallow Bay
14 animals to move around the Delta, staying fairly close
15 to shore and some of those ending up in Kugmallit Bay.

16 Q Do I understand then, they
17 would go into Shallow Bay first, stay there some period
18 of time and then begin to move north and east around the
19 other edge of the Delta.

20 A That's right. Generally
21 they stay in Shallow Bay, or more correctly in the mouth
22 of Shallow Bay, because that's where they were found
23 more often, and off shore of the mouth of Shallow Bay;
24 was between about the first of July and the third week
25 of July. A little later in one year but earlier in two
26 years. That is, their departure was earlier in two years.

27 Q Then the departure then,
28 would be to areas that would be further to the north
29 than to the east.

30 A For some of them, yes,

1 The herd tended to shift up towards Garry Island, however,
2 I must say their daily movements were reasonably great.
3 The herd in Shallow Bay could be found ten or fifteen
4 miles from the previous location within six hours of
5 the more recent survey, so there was some daily movement,
6 normally in and out from the shallow water to deeper water
7 and back again.

8 Q About how rapidly can
9 whales move, Mr. Webb? Is there anything known on that?

10 A I couldn't tell you off-
11 hand. They are quite rapid swimmers. Particularly when
12 alarmed. I would guess they could make eight or ten knots
13 without too much trouble.

14 Q What about their ability
15 to swim long distances in a day? Have you got any idea,
16 say, what distance they might cover in a day's movements
17 in this area?

18 A They are fairly sedentary
19 at this time. As I say, they seem to be seeking out the
20 warmer waters, and perhaps more sheltered waters in close
21 to the shore, but they do move ten or fifteen miles from
22 that location quite often.

23 THE COMMISSIONER: Excuse me,
24 just before we go on, so that I don't miss it. You said
25 that the whales in Shallow Bay are found most often at
26 the mouth of Shallow Bay and then you said , I thought
27 you said ^{and} off-shore of Shallow Bay, would you mind
28 going to the map again and just pointing that out to us

29 A Certainly.

30 THE COMMISSIONER: In relation

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1 to the proposed Arctic Gas Pipeline across__

2 A When the whales first
3 arrived they are generally in this area.

4 MR. MARSHALL:
5 COULD you identify that
6 for the purpose of the transcript.

7 A In the area known as Mac-
8 kenzie Bay which^{at} the centre of their location would be
9 immediately north of Tent Island and almost on a daily
10 basis or perhaps even more than once daily they move
11 into Shallow Bay and out again.

12 Q How far into the bay would
13 they move?

14 A For two years, 1972 and
15 again in 1975 they have been seen as far the mouth of
16 this channel which I believe is Reindeer Channel; that's
17 still some twenty or thirty miles from the end of Shallow
18 Bay. In two of the four years they haven't been seen
19 in that far.

20 THE COMMISSIONER: Sorry, two
21 of the four years they have been seen as far as the
22 mouth of the Reindeer Channel, and two of the four years
23 not. Is that correct?

24 A That's correct.

25 MR. MARSHALL: How long did
26 they move in that far^{from} Shallow Bay for? What is the length
27 of their stay?

28 A We are not really sure.
29 Our survey was a rather broad and extensive one rather
30 than an intensive one, so we didn't stay there to watch
them for any length of time, but our feeling was that

1 they were moving in response to hunting pressures from
2 the Aklavik people at Whitefish Station.

3 Q What would their movement
4 be in response to the hunters?

5 A They can distinguish very
6 well the sound of an outboard motor and associate that
7 with pursuit and ^{their own} survival, and they seem to be very re-
8 luctant to be trapped in shallow waters, so they will
9 immediately upon distinguishing that there is a threat
10 from hunting, they will turn and move out into deeper
11 waters where they feel much more secure, and we have
12 found also that they can distinguish between boats that
13 carry hunters and barges that are just travelling through.

14 Q What sort of response did
15 you detect to barge traffic?

16 A Generally speaking, if
17 the whales are in very shallow water and I'm talking
18 about something in/ ^{the order} of ten feet or less, they would move
19 out into deeper water, where they have the freedom to
20 manoeuver, then they often showed a curiosity and came
21 right up to the barges.

22 Q What sort of barging or
23 boating activity was going on in the Mackenzie Bay,
24 Shallow Bay area when your studies were underway?

25 A A considerable amount of
26 traffic to islands that were being constructed, here,
27 here, and of course Immerk initially. The
28 whales were found close to Immerk during the construction
29 period. In fact the dredge that was operating at
30 Immerk didn't seem to frighten them with the one proviso

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1 that if any boat of any description seemed to be pinning
2 the pod or the individual or the herd against the very
3 shallow shoreline, they immediately turned and steamed out
4 to deeper water and stayed there, and that might be five
5 miles off shore, then they would return, again.

6 Q Were you able to determine
7 why it was that the whales seemed to move into the shall-
8 ower water?

9 A Not precisely, it obviously
10 is a pleasant place to be. We recorded water tempera-
11 tures up to seventy degrees Fahrenheit at that time.

12 Q Would that be in Shallow
13 Bay?

14 A In Shallow Bay and the
15 Mackenzie Bay and in fact temperatures very close to
16 that at the mouth of the East Channel.

17 Q What's known about the lo-
18 cation at which these whales calve?

19 A Not very much; precisely,
20 because the calves are very difficult to see in the tur-
21 bidwaters of the Mackenzie. They are brown and they
22 don't show up very well from there. In fact the adults
23 when they are under water can't be seen, but it is assumed
24 that they calve here. There is some indirect evidence
25 in that some of the females that have been killed during
26 the hunt are still showing umbilical cords etc.

27 Q When you say calves here,
28 you were pointing to the general area of Mackenzie Bay.
29 I wonder if you have a precise area in mind or just this
30 area in general.

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1 A Not a precise area. I be-
2 lieve the calves are dropped in all of the areas that we
3 have found the whales to concentrate in.

4 Q Where are those areas? Could
5 you point them out on the map?

6 A Yes. Shallow Bay, off Garry
7 Island, the centre of west Mackenzie Bay and in Kugmallit
8 Bay.

9 Q Did your studies extend to
10 Liverpool Bay that Mr. Bayly was asking questions on?

11 A Unfortunately not, although
12 in 1975 we did make a reconnaissance survey in Liver-
13 pool Bay and found that the situation was quite differ-
14 ent. I think it is reasonable to assume that it is not
15 an important calving area.

16 THE COMMISSIONER: Just so that
17 there is no misunderstanding about it, you said that you
18 believe that the calves are dropped in Shallow Bay and
19 you had your pointer on Mackenzie Bay.

20 A Yes.

21 Q We take it you mean Shallow
22 Bay and not the Mackenzie area that you pointed at.

23 A I think I would have to
24 say, I am just not sure. It is wherever they are during
25 the first week or two of July, but when parturition takes
26 place they have very little specific control over the
27 event, as you can imagine.

28 MR. MARSHALL: Well, we have
29 heard a lot about the caribou going to specific loca-
30 tions, that seems to be the same, year after year. It is

1 a fairly small area. From your studies of whales, are
2 you able to determine whether or not that they go to the
3 same closely defined area each year or is there some var-
4 iation from year to year.

5 A The tendency is to come
6 to the Shallow Bay area, now we are talking about a re-
7 gion that is perhaps 30 miles across, something like
8 that, maybe more and also Mackenzie Bay which is a reg-
9 ion of slightly smaller but still a very large size
10 than Kugmallit Bay, and within those generally large areas
11 of concentration, we weren't able to determine favourite
12 sites, except ^{that} the tendency was to get into the warmer
13 water and into the shallow water, and it seems that there
14 were some, perhaps had preference for the areas that were
15 protected from wave action. Now, the assumption is of
16 course that the calves, the newborn calves benefit in
17 some way from the warm water and the protection from the
18 wave action.

19 Q Was there any effort made
20 to do what one could call disturbance studies on the whales?

21 A Not directly.

22 Q What types of disturbance
23 were going on that you were able to make observations on?

24 A Boat traffic, dredging at
25 islands, and of course our own aircraft surveys, which
26 were often flying at low levels.

27 Q What seemed to be the re-
28 sponse to aircraft movement?

29 A Not a very serious one; in
30 fact you could fly over them at 150 feet and they would

1 respond very locally but wouldn't leave the area at all.

2 Q Now you mentioned about boat
3 traffic. Do I take it there are tugs and barges that
4 would be hauling materials to the islands under construc-
5 tion?

6 A Tugs and barges and also
7 other service boats including jet boats.

8 Q Were you able to distin-
9 guish between the reaction of the whales to tugs and
10 barges, say as compared with outboard motor boats that
11 would be used by hunters?

12 A Yes. Without getting a
13 series of quantitative data, it was our impression that
14 the whales could recognize the outboard motors and dis-
15 tinguish outboard motors and associated that with the
16 hunters.

17 Q What would the reactions
18 be on hearing then, the noise of the outboard motors?

19 A Wherever they were within
20 earshot and that could be some miles away because their
21 hearing is quite accute under water, they would turn and
22 move out into deeper waters, something in the magnitude
23 of eight to ten fathoms.

24 Q How far away would they
25 move or would that be more a function of depth?

26 A More a function of
27 depth but because of the shallows it might be a mag-
28 nitude of a few miles and then they would hold.

29 Q And would that be the case
30 if they were pursued by the outboard motor boats?

1 A Well, they would certainly
2 run from them. Over in Kugmallit Bay we found that inten-
3 sive hunting sometimes caused some of these whales to
4 move back around Northhead to Mackenzie Bay and we felt
5 that these animals probably came back again because there
6 was trading back and forth of small pods.

7 Q What about the reaction to
8 the tug and barge traffic that was going up to the
9 the islands were under construction?

10 A Well, as I stated, if the
11 animals were close to shore, a tug or barge would often
12 cause them to turn and move out to deeper water, but if
13 they were in the deeper water when the tugs came
14 they wouldn't be too concerned about it at all except to
15 be curious in many cases and would come right up to it.

16 Q You mentioned that there
17 were dredges that were in operation at the site of the
18 artifical islands?

19 A Right. There was a large
20 suction dredge at Immerk.

21 Q What reaction were you
22 able to detect of the whales to the suction dredge?

23 A It didn't ^{have} an observable
24 effect on the distribution. In fact, some period after
25 operation the whales were seen within less than half a
26 mile of the dredge.

27 Q Do you have any other
28 questions.

29 THE COMMISSIONER: Just one
30 thing, so that people reading this like myself a few

1 months from now will understand what you meant. When
2 you said Shallow Bay, you seemed to point to an area that
3 encompassed Shallow Bay^{itself} and an area out into Mackenzie
4 Bay proper and when you said Mackenzie Bay, you seemed
5 to be chiefly concerned with the, that part of Mackenzie
6 Bay in the vicinity of Pelly Island and Garry Island.

7 A I'm sorry we call that
8 east Mackenzie Bay and this area, west Mackenzie Bay.

9 Q Right.

10 A Assuming that Shallow Bay
11 cuts off there, then I have been guilty of generalization.
12 The whales spend most of their time in west Mackenzie Bay
13 and only venture into Shallow Bay on certain occasions.
14 That has been the pattern that we have observed.

15 MR. MARSHALL: Is the timing of
16 that movement into Shallow Bay one that you pin down at
17 all in terms of time? Does it seem to be within a cer-
18 tain week or a period of weeks each year?

19 A It is within the month of
20 July and possibly the last two or three days of June.
21 The most intensive use of this west Mackenzie Bay area
22 has in fact been in the first two weeks of July but it
23 does vary and varies in^{relation to} the amount of ice that they have
24 to navigate to get here. In 1974 it was very difficult
25 for them to get here. They didn't arrive in Mackenzie
26 Bay, west Mackenzie Bay until July the eleventh. This
27 year they didn't leave west Mackenzie Bay until about
28 July the twenty-eighth.

29 Q When they leave do they
30 seem to come back again or have they moved on to other

1 areas?

2 A Generally moved on to other
3 areas, but starting about the first week in August, whales
4 are leaving the estuary from all concentration areas, and
5 by the middle of August they have thinned out very very
6 much.

7 Q Where is it thought they
8 have gone in August?

9 A No one is really sure but
10 they have seen them out closer to the pack ice and
11 also seen along the coast on both sides.

12 Q Well, in the event that
13 there was a crossing as proposed by Arctic Gas at Shallow
14 Bay, am I to understand that the whales would likely be
15 in contact with the area of the crossing probably during
16 a limited period at the end of June or the beginning of
17 July, based on the observations that you have made.

18 A I think, taking all the
19 variations into consideration, the month of July they
20 would be there, it would be the period that contact could
21 take place, yes.

22 Q I think those were all
23 the questions that I had sir.

24 THE COMMISSIONER: Thank you
25 Mr. Webb. Mr. Hollingworth?

26
27 MR. HOLLINGWORTH:

28 Perhaps Mr. Marshall could
29 advise whether he proposes calling Mr. Webb as a witness
30 during the cross delta phase to be heard later on in the

proceedings.

MR. MARSHALL: I don't know at this point in time sir.

THE COMMISSIONER: It's better to cross-examine them then than to call them in chief. Well, maybe you should question him now then if you are concerned about getting another shot at him.

MR. HOLLINGWORTH: I was just interested in knowing sir. I'm not prepared to cross-examine him at this time.

CROSS-EXAMINATION BY MR. HOLLINGWORTH:

Q Gentlemen, on page six of your prepared evidence, the third paragraph, there is a reference, well I will read it directly; the second sentence says:

"special controls will be implemented to prevent the subsequent siltation of lakes". I wonder if someone could be more specific as to what these controls would be?

WITNESS REMPEL: I'm looking at our document. I think we have a few words on that. Of course our first consideration is to , particularly at Yaya Lake is the plan of where you get the gravel so that you are not in actual sight of the lake and therefore you build a cofferdam or a small dyke to prevent any of this siltation from getting into the lake. This of course depends on the specific area that you are in. That's one measure. I haven't found a reference in this particular document.

Q This is Imperial's book that you're looking at now.

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1 A Yes.

2 Q I wasn't able to find any-
3 thing in it myself, but this reference seems to be to
4 subsequent siltation of the lakes and that I would gather
5 would mean after you have finished with any gravel exca-
6 vations. Would that be what you're saying?

7 A Well, subsequently of
8 course, there would have to be some contouring done, in
9 order to mitigate any possibility of the rapid drainage
10 down a slope and that sort of thing.

11 Q Was this a reference to
12 Yaya Lake only?

13 A It would be in the Imperial
14 document. Yes. I believe the other people could respond.

15 Q Perhaps the Gulf represen-
16 tative could speak of that as well.

17 WITNESS APPLETON: I think this
18 type of siltation that we are talking about would come
19 from the run-off from the road, maybe taking some of the
20 fines to a water body. In our planning, I believe we
21 will be trying to keep the roads far enough away from
22 lakes so that this wouldn't occur in streams.

23 Q Well, never the less you've
24 got a reference to special controls being implemented,
25 and so far Mr. Rempel has told me about dykes. Are there
26 any other special controls that you have in mind?

27 A I think that we will be
28 looking at this in our engineering study, very heavily.

29 Q You don't have any controls
30 now then?

1 A No, we don't. I think
2 that will be more site specific and until we determine
3 our final sites, we can't make the controls.

4 Q Now on page eight in ref-
5 erence to mammals, you give the opinion that grizzlies
6 are likely to avoid the area close to the travelled road-
7 way? Have you any studies or literature upon which you
8 rely in making that statement?

9 WITNESS WEBB: We have our own
10 of study
11 observations taken during two years on the on-shore delta,
12 I believe it is volume four of the evidence of our Envir-
13 onmental Studies that has been submitted.

14 Q Perhaps you could just
15 briefly describe what these studies amounted to?

16 A Essentially, opportunistic
17 observations of grizzlies and their proximity to activities
18 and their reaction to aircraft and to the presence of
19 people.

20 Q When you say an opportu-
21 nistic observation, I gather from that then, that if a
22 man is driving down the road in a truck and he sees one
23 grizzly in the first year and no grizzlies in the second
24 year then you draw the conclusion that they are likely
25 to stay away from roads?

26 A Not quite, no.

27 Q Perhaps you could describe
28 that to me then?

29 A I think that we drew in-
30 ferences from the data that we gathered. It was essen-
31 tially a series of infrequent but nevertheless observa-

1 tions of animals near facilities. There was some search
2 of the scientific literature with respect to grizzly
3 bears and I think that is referred to also in the docu-
4 ment. I think in combination, the conclusion is tenta-
5 tively drawn.

6 Q All right, now on page 10
7 there is a reference to Environmental Training Programs
8 for Construction and Operation Personnel. Have any such
9 programs been drawn up in written form, as of this date.

10 WITNESS REMPEL: Perhaps I can
11 respond to that in terms of the Imperial Oil operation.
12 We have had rather formalized environmental training
13 programs for Arctic personnel, since, 1970. These are
14 covered, since then, have been covered in various con-
15 ferences so to speak that we hold through the field ser-
16 vices in Edmonton, at which we have all of the foreman,
17 including contract personnel, who have a potential for
18 environmental impact in the area, attend these meetings,
19 at which we have experts in all of the various concern
20 areas, perhaps, all the way from archeology through to
21 zoology, and the first meeting of this type which was
22 formalized, was in 1970. Before that we certainly did
23 not neglect the environmental concerns, but they weren't
24 quite as formalized. We anticipate that we would have
25 a similar type of instruction, a similar type of material
26 which we would sort of condense from these various meet-
27 ings that have been held, and we have had a lot of feed-
28 back. In addition to that of course, we have had since
29 about 1970, people that we term environmental officers
30 who are in fact, monitors, and some policemen who are in the field

1 a lot; they serve to act as training people as well on an
2 informal basis. We would anticipate, at least for our
3 operation, that that sort of practise would continue.

4 Q If we can go first to the
5 first course you describe Mr. Rempel, you spoke of fore-
6 men and other personnel, who might affect the environment
7 attending. Do the workers themselves, who would be work-
8 ing under the foremen, attend these courses?

9 A Some of them, yes.

10 Q And how long is this course?

11 A Usually a day, and possibly
12 two. I might add that, Mr. Hollingworth, in addition to
13 that course, there are quite a number of our people who
14 attend specialized courses that relate to environmental
15 protection, such as the Petroleum Industry Training school
16 in oil-spill clean-up techniques held in Edmonton.

17 Q All right. Did I gather
18 from your answer Mr. Rempel, that there is no written
19 format for this course at the moment and that you are
20 in the process of preparing one or contemplate preparing
21 one?

22 A For the specific Taglu
23 development, there is no written material as yet.

24 Q Do you have a general
25 written course set out?

26 A Our general course is
27 really contained in the agendas of the various meetings
28 that we hold.

29 Q I wonder if it would be
30 possible for that document to be produced, because I'm

1 thinking, sir, that that might be of some use to the
2 Inquiry. So far we've had suggestions from the applicants
3 and from the Environment Protection Board about such
4 courses, but perhaps something concrete like this might
5 be of some use to the Inquiry. Could that be produced
6 Mr. Ballem?

7 MR. BALLEM: I'm sure it could
8 be produced. We'll undertake to do so.

9 MR. HOLLINGWORTH: And then with
10 the environmental officer training, perhaps you could
11 give some details on that. I assume that it goes into
12 a good deal more detail than the foremen are submitted
13 to.

14 WITNESS REMPEL: Yes, we norm-
15 ally choose an environmental officer, because of his
16 particular interest and involvement in field work. We
17 don't send him out to any special courses, but they do
18 go to various seminars and also act as the liason be-
19 tween our various biologists who are primarily consul-
20 tants and the field operations. Through that mechanism
21 they obtain a great deal of environmental training, so
22 to speak.

23 Q Now, do the other two
24 producers have a similar program, as Imperial?

25 WITNESS APPLETON: Speaking on
26 behalf of Gulf, I would have to say ours is a much more
27 informal type of program. We don't have a written pro-
28 gram. We more or less talk to our people on special
29 concerns of special items as the need arises, in the
30 different areas of concern come up. Our people have also

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Cross-Exam by Hollingworth

1 gone to a number of courses, such as, and here again, I
2 would like to more or less, talk about our foremen. They
3 have gone to such as the A.P.O.R. seminars that have been
4 held during the past two or three years, and they've
5 taken the survival courses for the Arctic, and I think
6 that the environmental concerns, as I have stated before
7 are done on a very informal basis, and as such we have
8 no written presentation.

9 Q I wonder Mr. Appleton,
10 whether it would be possible to get some, perhaps a
11 letter from you, sort of outlining what generally is in-
12 structed to the foremen in these informal sessions?

13 A Yes, I think we could.

14 Q Then perhaps Mr. Wopnford
15 we could hear from you?

16 WITNESS WOPNFORD: We don't have
17 the formalized meetings that Gerry described. Normally
18 at the start of any major operation on a site construc-
19 tion or a helicopter move of one of the rigs, or some-
20 thing like it, we have a pre-start-up meeting where we
21 discuss with the people concerned, the foremen in the
22 field, and other workers, the kind of concerns that we
23 may have at that particular site. So it's again not
24 particularly structured. We talk about if we were
25 working in the Kendall Island bird sanctuary alert them
26 again of any of the kinds of concerns that we may have
27 at that time of year and make sure that they stick to
28 the proper regulations and any others that we think
29 might be beneficial.

30 Q I gather then, that Shell's

1 program tends to be more site specific?

2 A That's correct.

3 Q Would it be possible from
4 you, sir, to get a letter covering a typical operation
5 such as you've described just to cover the activities or
6 to cover the subject matters that are raised in your
7 session.

8 A Yes sir.

9 Q Thank you. Now Mr. Rempel,
10 I refer you to page 2-110 , the very first sentence deals
11 with personnel having a broad knowledge of the northern
12 environment, being assigned to monitor field activities
13 during preoperation stage of development, would you an-
14 ticipate these people being what you've earlier described
15 as environmental officers within the Imperial organiza-
16 tion?

17 WITNESS REMPEL: Yes sir.

18 Q They would be one and the
19 same?

20 A Yes sir.

21 Q And so their training pro-
22 gram obviously is the same as you outlined?

23 A Yes. They may not be ex-
24 actly the same people that we have now, but they would
25 be similar.

26 Q All right. Well, do you
27 have a written document now, covering your policies and
28 procedures with respect to drilling, that these people
29 refer to?

30 A Could you repeat the ques-

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Hollingworth
Cross-Exam by Bayly

1 tion again.

2 Q Do you now have a written
3 policy and procedures manual that these field personnel
4 can refer to in carrying out their duties?

5 A We have a description of
6 their responsibilities, yes.

7 Q Would it be possible to
8 have that produced to the Inquiry as well?

9 A I would check with our
10 policy advisor on that one.

11 Q Perhaps Mr. Ballem could
12 advise if there's any objection to producing that.

13 MR. BALLEM: Yes, if I don't
14 advise, let's assume that we'll make it available.

15 MR. HOLLINGWORTH: Thank you
16 sir. Those are all the questions that I have. Thank
17 you.

18
19 CROSS EXAMINATION BY MR. BAYLY:

20 Q Mr. Rempel, if I may start
21 with you and the line of cross-examination that was
22 taken up by Arctic Gas, with regard to the delta environ-
23 mental protection unit. You alluded to a list of equip-
24 ment that you had before you, that is available at Bar C
25 and other locations in the delta to be available in the
26 event of oil or spills of other liquids into aquatic en-
27 vironments. You said it's a very long list. Can you
28 tell us the basic components of it and perhaps it could
29 be photocopied and submitted as an exhibit to the In-
30 quiry?

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Cross-Exam by Bayly

1 WITNESS REMPEL: Yes, I could
2 turn this in for that purpose. It consists basically of
3 booms. I mentioned the marine craft, the jet boats, there
4 are skimmers and pumps. There are portable tanks, comm-
5 unications equipment. There are sorbent wringers,
6 things like peat moss, that sort of thing. There is oil
7 proof clothing, there are portable electric generators,
8 various hand tools, tents, emergency sleeping bags, some
9 emergency food and cooking utensils. Some storage build-
10 ings, others, various types of skimmers and pumps which
11 I think I mentioned and of course miscellaneous small
12 items, small hand tools, and that sort of thing.

13 Q I'd be grateful if that
14 could be made an exhibit, perhaps after lunch.

15 Looking at the basic items,
16 I noticed that one of the items that doesn't appear to
17 be on the list that you've outlined is dispersants.
18 Are they kept at these sites as well?

19 A I don't believe we have
20 any dispersants but I will double check that for you.

21 Q The reason I'm asking is,
22 I'm wondering if the companies have any policy with re-
23 gard to the use of dispersants to clean up oil spills
24 in the north?

25 A At the present time, I
26 don't believe that we have, but that is a matter that is
27 still under investigation and I believe the Department
28 of Environment Protection Service is also looking into
29 that.

30 Q As an environmental panel

1 do you have any opinions you can express, as to the use
2 of dispersants in the event of oil spills. Let's call
3 it liquid spills as opposed to oil spills, as I under-
4 stand there are other substances that these pieces of
5 equipment and --

6 A My opinion personally is
7 we should not rule out that type of material, but we
8 would have to very carefully, look at what the material
9 was that we were using and what the effect might be, be-
10 cause I think you have to look at the ultimate result.

11 Q In other words, you are
12 telling me that the environmental assessment of the eff-
13 ects of dispersants on aquatic ecosystems has not yet
14 been monitored for this, not been assessed for this area?

15 A No, I believe it has been
16 discussed by experts, but not what you'd term assessed.
17 I'm not aware of it. I will check--

18 Q What about the other com-
19 panies, Mr. Wopnford, have you any opinions on the use
20 of dispersants ?

21 WITNESS WOPNFORD: I have, only
22 in the sense that it shouldn't be completely ruled out
23 because, I think it has been found in places that the
24 trade-off of the problem that may arise from the disper-
25 sant, would be less than the alternative of not using it
26 when there was no other way of handling the spill that
27 occurred.

28 Q And the trade-offs that you
29 are referring to are the fact that the oil when dispersed
30

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Cross-Exam by Bayly

1 doesn't disappear but it leaves the surface and mixes up
2 with the water and may affect, may cease to affect to
3 ducks and shore birds but may affect, fish and marine
4 mammals?

5 A That is correct, so you
6 would have to really look at the situation where, if in
7 fact there were no fish or other, in a small shallow
8 lake in the delta or something, it could be that it
9 would be more harmful to leave the oil there for any ex-
10 tended period of time, because of the bird damage, when
11 in fact dispersants wouldn't hurt anything in the water.

12 Q And, can we have the Shell
13 opinion on that as well? Or have I got the companies
14 mixed up? Gulf, I'm sorry.

15 WITNESS APPLETON: I believe
16 we follow much the same as Imperial and Shell have been.
17 We'll be continuing to investigate and look into dispers-
18 ants as they become available and their reactions and
19 results of using them. I think that's about all I'd
20 like to say.

21 Q Have you been studying the
22 toxicity of disturbance to fish and marine mammals?

23 A I can't directly answer
24 that. There are people ^{with} in our company who have been.

25 Q And I gather there is a
26 range of dispersants and that involves testing each one.

27 A Yes.

28 Q You've talked about having
29 booms stock-piled, Mr. Rempel, and as I understand it,
30 booms, are effective in calm waters and waters without

1 current, of more than one mile an hour. Is that your
2 understanding?

3 WITNESS REMPEL: Yes, Not nec-
4 essarily the particular figures you used but booms are
5 effective in, most effective in calm waters.

6 Q And, if you were booming in
7 a water course with a series of rapids in it you would
8 want to get your boom in before the oil had gone through
9 the first rapid as I understand, or it may disperse it-
10 self into the water and cause a potential harm to fish
11 and be impossible to clean up?

12 A I would think that's a
13 reasonable assumption.

14 Q And you would agree with
15 me that if a spill was accompanied by a storm, that the
16 effectiveness of booming would be very limited?

17 A That would depend Mr.
18 Bayly, on the particular storm and where the particular
19 spill was.

20 Q All right.

21 A If you are assuming the
22 worst conditions, I would agree with you.

23 Q Yes. Now if you did get
24 an oil spill, in the delta, from a barge carrying fuel
25 for example, and the oil, because of winds and currents
26 got dispersed into the channels and the small lakes of
27 the delta, have you formed any opinion as to whether we
28 could expect it would be possible to clean the spill up
29 entirely?

30 A I wouldn't say entirely,

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Bayly

1 but I'm sure that there would be some opportunity for
2 effective clean-up of some kind.

3 Q My understanding of clean-
4 ups is that not only is a great deal of equipment needed
5 but that a large number of men, is required to do an
6 effective clean-up of an oil spill or a fuel spill of any
7 size. Is that your understanding?

8 A A fair number of men, yes,
9 depending of course, on the spill, where it was, and
10 what the conditions were.

11 Q Right. And it's the effe-
12 ctiveness of the program, may depend on the availability
13 of manpower and how quickly they can be put on site to
14 operate the equipment that you have?

15 A Yes.

16 Q With regard to the equip-
17 ment that you have, it appears to be equipment that is
18 used in conditions where ice is not a problem?

19 A That is what most of this
20 equipment is designed for.

21 Q So that if a spill were to
22 occur--

23 A That, I would first ask
24 you to define what you would call "ice."

25 Q I was just about to go in-
26 to that with a series of questions, because I want to
27 break down the various kinds of ice conditions.

28 First of all,
29

30 THE COMMISSIONER: Let's do

1 that after lunch.

2 A Certainly sir.

3 THE COMMISSIONER: Okay, two

4 o'clock. (WITNESSES ASIDE)

5 (PROCEEDINGS ADJOURNED TO TWO P.M.)

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Adjun, Pederson, Pederson, Kamingo
In Chief

1 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

2 MR. GOUDGE: We have some
3 people here from Coppermine that would like to say
4 something sir.

5 THE COMMISSIONER: Maybe you
6 could just give us your names and then just tell me
7 whatever you would like to --

8
9 COLIN ADJUN,
10 LENA PEDERSON,
11 RED PEDERSON,
12 PETER KAMINGOAK, sworn

13 WITNESS ADJUN: My name is
14 Colin Adjun. I'm a Gulf expeditor for looking after
15 crew changes from Swimming Point to Coppermine, from
16 Coppermine.

17 THE COMMISSIONER: I wonder sir,
18 if you could pull that microphone a little closer to
19 you and then start again, just so we can hear a little
20 better.

21 A My name is Colin Adjun,
22 Gulf expeditor, I look after the crew changes from
23 Swimming Point to Coppermine. Also, I'm co-op general
24 manager in Coppermine.

25 WITNESS L. PEDERSON: My name
26 is Lena Pederson. I'm a former member of the territor-
27 ial council and private citizen from Coppermine.

28 WITNESS R. PEDERSON: I am
29 Red Pederson. I am presently the chairman of the
30 settlement council in Coppermine and also employed as
31 manager for the co-op general retail store.

Adjun, Pederson, Pederson,
Kamingoak -- In Chief

1 WITNESS KAMINGOAK: I am Peter
2 Kamingoak and I am working for Gulf Oil at Swimming
3 Point and I am Eskimo foreman right there.

4 THE COMMISSIONER: Well go
5 ahead, among yourselves you just decide who wants to
6 go first.

7 WITNESS L. PEDERSON: Sir, probably
8 I will start. When I am just myself I am private
9 citizen, however I have a critical interest in what
10 goes on in the north. I am pleased I can appear before
11 you and mention a few things what I feel regarding
12 development in the north. I must apologize with my
13 English, I hope you will understand.

14 I live quite number of years
15 in the Northwest Territories. I am looking forward to
16 the day when the development start in the north because
17 in my own feeling of today, I feel ^{we} have been special
18 part of the Northwest Territories because we have been
19 controlled many ways by the government. The reason
20 for I am saying that of lack of employment by the native
21 people. I feel that many northerners are ready today
22 to be employed in the north, doing something for the
23 good of all Canadians. I feel very strongly that we
24 can't wait any longer to do something. As I mentioned
25 earlier up to now we've been part of Canada, but special
26 part and I feel very strongly that when developments
27 start, when the people start involving themselves,
28 particularly in employment, many of them will be re-
29 solved. What I mean is that there are a number of
30 many young people going to school today, they must do

Adjun, Pederson, Pederson,
Kaminqoak -- In Chief

something. None of us could expect to work for the government. I think that it is great important that we do something in the north to develop. Living in small community and maybe a new interpretation away from the area you talking about for the -- for the pipeline or anything or the development comes in the western part of the territory. It's even not living right here. It's very important that following how the people react to the development of the north.

Sure, there are some disadvantages and some advantages but in our own feelings I much prefer to see some developments goes ^{up} as soon as possible. In my own view, the way I see it, if no development goes in the north it will be very sad to many of us who live in the north because we the people living in the north we don't want any development, what is the future for our children? Do we expect that these children have to go somewhere else to look for the jobs or do we expect that many small communities will be closed down because of no development? It's very, very important to look for, for the benefit, not only for the northerners, for all Canadians, that what I'm saying that if no development goes in the north in the near future the way I see it the government will say "OK, you don't want any development, we have no choice for you." We have to close many small communities, put in centralized locations. It's quite understandable if they want to go that way for the sake of the money, but for the social aspect it is disaster. I rather to see that many people

Adjun, Pederson, Pederson,
Kamingoak -- In Chief

1 employed and understand what's going to happen in the
2 future in the north. What's going to happen if no
3 development can go ahead. In my own view up to now
4 listen to the radio or TV, the time^{you} spend doing your
5 Inquiry in Yellowknife I must say, sir, in my own
6 feelings that I have been disappointed. I realize that
7 it's not easy job but the way I see it, it's been too
8 many negatives to put forward regarding development of
9 the north.

10 As I said I do live in this
11 area but I have very interest and very strongly and
12 very carefully listen what goes on in your Inquiry and
13 I realize that there are many expertize and so they
14 may have to do certain things. In my own feeling I
15 feel that you have more hearings in different part of
16 the Northwest Territories and in the smaller communities
17 in informal manner will give you more benefit.

18 Even so, I can see you have
19 to follow certain things. Doing the work sometimes
20 it's very difficult but do it informal way, more
21 northern people could say something in their own house
22 how they feel about it because quite often many
23 northerners don't really follow what goes on when they
24 go into the special points, they can't say what they
25 feel like. To say it when they do it in formal manner.

26 I hope I clarify my point,
27 I hope I've crossed my point how I feel regarding the
28 development in the north. I wish you good luck and
29 I hope if this particularly doesn't go through, we
will have the other alternative way develop the north.

Adjun, Pederson, Pederson,
Kamingoak -- In Chief

1 Because let's face it Northwest Territories is big
2 country, people live long far apart and is many things
3 could be done. And I feel very strongly that northern-
4 ers themselves must think very, very clearly and try
5 to put their views clearly and not to expect too many
6 experts to do their work. It's my own views and I
7 pass them to the other people. If it's necessary I
8 might say later on. Thank you.

9 THE COMMISSIONER: Thank you
10 very much, ma'am.

11 WITNESS ADJUN: As an expeditor
12 for Gulf Oil I would like to say a few things about
13 Gulf. They have been good to us in Coppermine, like
14 jobs. I know a lot of people would have no job if the
15 Gulf Oil didn't come to us and asking us that if Copper-
16 mine people could work in around here, in this area.

17 I know there's a lot of things
18 has been happened since they started, I'm not sure,
19 I forget the year but there has been quite a few changes
20 since they start and a lot of people make money of course
21 and they get what they want. They get a new boat and
22 skidoos and they have nice furnitures inside their
23 houses and families living good and if they weren't
24 there, they would never have jobs and they would look
25 for jobs anywhere and trapping is not always that good
26 and this is why we are very happy for the Gulf Oil
27 people to approach us for employment.

28 And it has been helping the
29 community money-wise as our co-ops store, just two
30 years old, general store, it's been going pretty good.

Adiun, Pederson, Pederson,
Kamingoak -- In Chief

1 We've had a lot of customers and they've spent a lot
2 of money on co-op, on their own co-op. That's all.

3 THE COMMISSIONER: Thank you
4 sir.

5 WITNESS R. PEDERSON: I can
6 only support what the others have said so far and I
7 would like to make a few other comments on the employ-
8 ment in Coppermine.

9 As far as we are concerned, it
10 has been generally most beneficial. We have heard
11 very, very few, in fact I do not know of any local
12 complaints about the employment program. It is the
13 single largest source of income into Coppermine and
14 I would like to point out a few things compared to the
15 pre-employment days, the old days if you can call it
16 that. It is not, the employment has not interfered
17 with the traditional living off the land. In fact,
18 Colin mentioned that trapping is not always that good,
19 we all know that this is dependent on cycles and foxes
20 some years are good and some years are not. But,
21 nevertheless, during the period of employment by
22 Gulf Oil, Coppermine has also experienced the largest
23 take of fur, in other words, the largest revenue off
24 the country in traditional hunting. Not only in dollars
25 but in actual numbers of pelts caught and this is off
26 records dating back to the establishment of Coppermine
27 as a trading center in 1928.

28 Also, I feel the employment
29 does not necessarily and certainly in Coppermine has
30 not made people dependent on employment only, and

Adjun, Pederson, Pederson
Kamingoak -- In Chief

certainly people have not stopped using the benefits that the land can give them. In fact the employment has enabled people to acquire equipment, much better equipment than they have ever had and enabled them to take better advantage of the resources traditionally available.

Fishing has always been very good in Coppermine and still is. Hunting always has been in Coppermine and still is. And even though one might expect an increased dependency on southern imported foods, this does not seem to be the case in Coppermine either. In fact, the percentage of sales in our co-op store, and it's not an insignificant portion of the total Coppermine trade, our store, we just recently finished a financial statement for the year and our store did somewhat over half a million dollars turnover. The percentage of food sales, which of course is imported foods was 36 per cent of our total sales compared to 42.7 the year before.

So, it would strongly indicate that the employment has not caused an additional dependence on southern foods; rather the opposite, it has enabled the people to harvest their own traditional foods better.

Also, I might ^{add} that the employment schedule seems to be a very ideal one. It is in fact no different from the traditional trapping days when the trappers used to be away from home for two weeks during the trapping season and home for a week and out for two weeks, identical to the employment

Adjun, Pederson, Pederson,
Kamingoak -- In Chief

1 schedule as it is now. I don't think any of us
2 here are competent or have no business to comment on
3 pipelines as such; we did meet with the settlement
4 council in Coppermine prior to coming here and mention-
5 ed that we had been given the opportunity to come here
6 and the council unanimously, basically said "go over
7 and tell the commission that we all feel that this
8 employment program has been a great benefit to us"
9 and about the only direct instructions they gave us
10 was to publicly , on behalf of the people of Coppermine,
11 say thank you to Gulf Oil for the employment program
12 provided. We have appreciated it. It has been and as I
13 say, still is, the greatest source of income for the
14 community. That's all I have.

15 WITNESS KAMINGOAK: Well, I haven't
16 got too much to say. What I was thinking about, they
17 brought it all up so I won't say too much.

18 Well, I have been working for
19 Gulf for about four years now and our turnout is real
20 good from Coppermine so we don't have too much trouble
21 getting back to work with our crew there you know. All
22 the boys like working out in the delta you know. Just
23 like the old days, I used to be away from home for two
24 weeks and then I would be home, so it's no different
25 you know, is what we are doing right now so nobody gets
26 too lonely, nobody gets too anxious to be home right
27 away, so they are all happy you know. It seems that I
28 am here for one week; I kind of like it all right. I
29 was supposed to go home last Wednesday but I guess I
30 had to come here so I had to come here. I don't know

Adjun, Pederson, Pederson,
Kamingoak -- In Chief

1 what's going on round here too much but they asked me
2 to come here so I came and just listening to the
3 meeting right now. So I haven't got too much to say
4 about it. So I might as well close now anyway. Thank
5 you.

6 THE COMMISSIONER: Thank you
7 sir. Did any of you want to add anything to what you
8 said earlier?

9 WITNESS L. PEDERSON: I have
10 one thing, sir. It's -- I as a private citizen I must
11 say it's one thing concerns me. When they talk about
12 the development on this area. I realizing that it's
13 the native people negotiating with the government at
14 the moment regarding the land claims and personally I
15 am concerned about that because if, as example, if they
16 say Indian communities, if they say "OK fine" they
17 want to hold up until the land claims settled.

18 THE COMMISSIONER: Sorry, I
19 didn't hear what you said. Indian communities --

20 A If the Indian communities
21 said they don't want to see any development until the
22 land claim's settled and the Eskimos will do the same
23 thing, just as example. And if these two negotiation
24 with the federal government say that the two of them
25 doesn't come the same time, I hope it's not decreed
26 to the whole northerners it's very very important to
27 all northerners that they work together towards the
28 development of the north. I say it's great concern
29 to me and I know it's to many others that realizing
30 that land settlement it's been talked over for some

Adjun, Pederson, Pederson
Kamginoak -- In Chief

1 time, on the other hand it seems to me it's dragging
2 off a lot, it's taking a long time to settle their
3 negotiations and in my opinion I hope it won't take
4 many, many years to settle the land claims so it's
5 nothing can be done regarding development. That's the
6 point I would like to make, sir.

7 THE COMMISSIONER: Well, thank
8 you very much. Well, I'm sorry that the community
9 hearing we were to have on Wednesday didn't take
10 place but the people who live here in Inuvik indicated
11 to us that they wanted to wait until next week. So I'm
12 glad that you came and that you were good enough to
13 express your views here today. We certainly appreciate
14 your coming forward the way you have. Bear in mind that
15 I'm anxious to know how people of all races here in the
16 north feel about development and that's why we've gone
17 into the communities, 21 communities so far, to hear
18 what the people who live there have to say and I
19 appreciate hearing from all of you and let me thank
20 you again.

21 WITNESS L. PEDERSON: Thank you.

22 (WITNESSES ASIDE)

23 MR. GOUDGE: We might recall
24 the panel that was on before lunch.

25 THE COMMISSIONER: We'll just
26 break for a moment or two.

27 (PROCEEDINGS ADJOURNED FOR A FEW MINUTES)

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(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

THE COMMISSIONER: Come to order, ladies and gentlemen. I know it's Saturday afternoon and we've managed to talk ourselves into an early coffee break, but we'll try to get in a little more work. Yes, Mr. Ballem?

MR. BALLEM: Just one item, Mr. Commissioner. Mr. Rempel was asked this morning if he would file some of the typical agendas and items covered in the seminars with the environmental people and we have a sample, a random sampling of the various seminars and I'd like to file that as an exhibit. It's not exhaustive, but it does give a very good idea of what takes place and it's possible that Mr. Rempel might need it from time to time in the course of his cross-examination but I'll file it now.

THE COMMISSIONER: Fine.

(IMPERIAL OIL LIMITED ENVIRONMENTAL & OPERATIONAL
SEMINARS FIELD SERVICES 1970-75 MARKED EXHIBIT
430)

GORDON ROBERT APPLETON,
GERHARD REMPEL,
ROBERT WEBB,
MAX EUGENE WOPNFORD, resumed:

CROSS-EXAMINATION BY MR. BAYLY (CONTINUED):

Q Mr. Rempel, when we left off this morning we were talking about contingency plans and I'd left the question of spills where there is ice up in the air, and I did inform you just before

1 lunch that I'm interested in contingency plans for
2 spills on ice, under ice, and in moving ice. Did you
3 have a chance to think about that, and could you
4 comment on it now?

5 WITNESS REMPEL: Well, first
6 of all let me just talk a little bit about spills on
7 ice, and again assuming that you have a reasonable
8 ice cover, that, of course, normally you would have
9 some snow, we would think that would be almost an
10 ideal situation if you could call it that for a cleanup
11 of a spill, depending again on what kind of a spill
12 you're talking about. But the snow is easily formed
13 into dykes to contain any of the material that has
14 escaped. It also acts as a good absorbant and we are
15 -- our people are quite accustomed to working with
16 snow. It becomes a problem of logistics and which I
17 believe is one of the easier types of conditions to
18 cope with.

19 Q All right, that is
20 spills on ice itself.

21 A Yes.

22 Q Have you addressed your-
23 selves to the concerns surrounding spills under ice?

24 A There again I think the
25 sort of conditions you're thinking about need to be
26 spelled out, but if you -- there are trenching methods
27 and so on available provided that the ice cover is
28 stable in which you might either put in some kind of
29 a dyke or a boom under the ice to stop it. You might
30 also use a trench to -- or the oil will collect and

1 then pump it out from there. There are some methods
2 I think that are quite capable of handling that sort
3 of thing.

4 Q I understand there are
5 some knowledge gaps in the area of spills under ice,
6 especially where currents may be involved.

7 A Yes, if your currents
8 are strong there are -- those are different conditions.

9 Q And what about in moving
10 ice, have you contemplated the possibility of acci-
11 dental spill on moving ice? That would most likely
12 be a spill from shore that got into, say, a water course
13 or a lake.

14 A You mean --

15 Q That is broken ice, ice
16 that --

17 A Well, obviously when you
18 have broken ice and it's moving and if oil does escape
19 into it, the problem of attempting to clean up becomes
20 much more difficult, and I'm not saying that it's
21 impossible to clean up some of it. I would say it would
22 be very difficult to clean up all of it, or perhaps
23 even a major portion under again ^{the} worst conditions as
24 you've described.

25 Q So there are some
26 conditions under which even though the contingency
27 plans are quite elaborate, equipment that you have
28 and the technology available has not solved some of
29 the problems.

30 A We haven't solved all the

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Bayly

1 problems. No, we are certainly working on those that
2 are still remaining and again I would point out that
3 the preventative measures are -- take top priority in
4 our planning so that spills that normally occur, occur
5 due to transfer or transportation of fuel and I believe
6 under those conditions that you have described perhaps
7 those would not be the times when we would be handling
8 and transferring a lot of fuel.

9 Q That brings me to my
10 next concern, and that is that with particular reference
11 to the plan to bring material around the Tuk Peninsula
12 and to Liverpool Bay and through Husky Lakes. There
13 will be, as I understand -- and this isn't particularly
14 addressed to your company -- but there will be toxic
15 substances both fuels and drilling compounds and lub-
16 ricants and perhaps other substances that I don't know
17 of which will be transported and may, because of
18 accidents escape into the Beaufort Sea, lakes or
19 water courses. Have you thought of whether it would
20 be more sensible to move these items in the winter
21 over winter snow roads or over the ice?

22 WITNESS APPLETON: I think, as
23 we stated in our land use tenure application, during
24 the initial phases of our operation, development
25 operation we are planning on transferring the fuels
26 overland by winter roads, and as the facilities are
27 developed in the Parsons Lake gas plant area, we are
28 planning on shipping the materials, fluids in
29 particular around by barge. I think we're well aware
30 of your concerns and to that end we are starting to

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Bayly

1 develop contingency plans for that.

2 Q Might those involve
3 changing the logistics and moving the compounds that
4 I've mentioned either in the wintertime or by air?

5 A I think there are, as
6 well as environmental concerns, I'm sure you're aware
7 there are economic concerns and as you're also aware
8 barging probably is the cheapest method of moving
9 any material.

10 Q Have you been given a
11 list of the substances that will be used by Gulf Oil
12 and that will be transferred by barge so that you can
13 assess their potential environmental impact if they
14 do manage to escape into water?

15 A As I stated before, we
16 are working on that and we will be developing
17 contingency plans.

18 Q But can you answer my
19 question? Have you been given a list of compounds that
20 are likely to be used?

21 A I think we're generally
22 aware of them, yes.

23 Q And when you say you're
24 generally aware of them, are you aware of the ones in
25 the land tenure materials and others, or just the ones
26 in the land tenure materials?

27 A I think we're familiar
28 with the drilling fluids that are occurring and the
29 ones that are listed there for the gas processing.
30 As a previous panel spoke before, the chemicals are

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Bayly

1 -- or fluids that may be required will depend upon the
2 final processing of the gas which to this date really
3 hasn't been finalized.

4 Q Well, would you agree
5 with me that there may be hundreds of possible combina-
6 tions, depending on the kind of material to be drilled
7 through and the conditions of drilling?

8 A I don't think that's very
9 likely in the Parsons Lake area, based on our past
10 experience.

11 Q I don't mean that you
12 would necessarily find that hundreds are being taken
13 in there, but there may be hundreds from which to choose.

14 A I think that's a fair
15 statement, yes.

16 Q And if it's fair to say
17 that there are hundreds from which to choose, will you
18 as an environmentalist on the staff of Gulf Oil be
19 recommending that certain ones be used rather than
20 others because of their potential damage to aquatic
21 environments?

22 A I think that as has been
23 stated before, in particular with the drilling programs
24 we are working with the Department of the Environment
25 and Indian & Northern Affairs to establish a list of
26 acceptable products, and we'll hear of that list.

27 Q Do you anticipate that
28 there may be items on that list that you think should
29 not be risked? That the transportation of them
30 should not be risked by barge?

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Cross-Exam by Bayly

1 A Not offhand, no.

2 Q If there were any, would
3 you make recommendations to Gulf that despite the
4 economics involved, they be brought in some other way?

5 A Yes, I think any product
6 that you're talking about that could be lethal or have
7 a detrimental effect, would be in small quantities
8 and we'd be very concerned about how they were trans-
9 ported.

10 Q And I take it you'd
11 also be concerned with how they were kept on the site,
12 and where they were kept on the site.

13 A Definitely.

14 Q And yesterday we heard
15 evidence that they would be kept an appropriate dis-
16 tance from facilities, but we weren't able to find out
17 what an appropriate distance was in terms of the
18 environment. Will you be establishing rules for Gulf
19 Oil as to how and where to store their chemicals?

20 A I think that is a fair
21 statement, yes.

22 Q Have you started that
23 yet?

24 A Not yet, no. We're
25 aware of it and we are planning on doing studies and
26 formulating these regulations -- guidelines.

27 Q Now, what kinds of
28 things are you doing in the surveys you're carrying
29 out in the Husky Lake to determine whether your planned
30 barging activities will have any effect on the fish

1 species?

2 A As you are aware, we
3 haven't as Gulf done any detailed site specific studies
4 and one of our major programs this summer is to under-
5 take large studies in the Eskimo Lake area. We have
6 also been in contact with a gentleman by the name of
7 Gerry Hunter, who has done a large amount of work in
8 the Eskimo Lakes, and we've been trying to get his
9 data that is available, and to date we understand
10 it's unpublished but he's agreed to send us a manu-
11 script, an unpublished manuscript of the work that he
12 has done to give us some help and assistance.

13 Q I wonder if that might
14 be made available to this Inquiry when you receive that?

15 A Yes, certainly. We might
16 also state that the Department of the Environment,
17 the hydrographic services under the Department of the
18 Environm~~e~~nt are undertaking a full hydrographic sur-
19 vey in the Husky Lakes this year.

20
21 MR. BALLEM: I wonder if
22 I might just interject, Mr. Commissioner. Have you
23 obtained Mr. Hunter's permission to make this public?
24 Because I'm concerned, it's an unpublished manuscript.

25 A No, I guess we could
26 clear it with him. He has agreed to send it to us.

27 MR. BALLEM: I'd like to put
28 that caveat, if I might, sir, because this could be
29 a pretty touchy situation.

30 THE COMMISSIONER: Well, you

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Cross-Exam by Bayly

1 have a special knowledge of these matters and we will
2 defer to it.

3 MR. BALLEM: We have to
4 defend our copyright.

5 THE COMMISSIONER: Well, let's
6 get on.

7 MR. BAYLY: Q Can we go on
8 then to the work that you're doing in Liverpool Bay?
9 Can you tell us what that work will entail?

10 A That, I think, has been
11 brought up in the previous testimony. We will certainly
12 be giving some more consideration in terms of studies
13 towards the whales and the fish in the area. As you're
14 aware, there have been barges down through the Eskimo
15 Lakes to, I believe, an Elf location several years
16 ago, so it's not the first time^{that} that area has been
17 used by barges.

18 Q All right.

19 A We might, while we're
20 talking about the Eskimo Lakes, place some time con-
21 straints on them. Normally the Eskimo Lakes aren't
22 cleared until the middle of July to the end of July,
23 and normally ocean barges don't leave Tuk to go to
24 the Eastern Arctic till around the end of July. If
25 we were looking at going in the Husky Lakes, in all
26 probability we wouldn't be in there until at the
27 earliest, the middle of August or the end of August.
28 I think that's prob_ably a very valid point in this
29 case.

30 Q So you'll be studying

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Cross-Exam by Bayly

1 it mainly at that time of the year in order to see what
2 the problems might be then?

3 A No, I would think that
4 we would try to get an overall comprehensive view of
5 the situation.

6 Q And will you be looking
7 at Liverpool Bay with an idea of seeing whether it
8 would be possible to dredge it, should that be necessary?

9 A No. As I stated before,
10 other barges have been in that area with no particular
11 problems.

12 Q Well, this morning we were
13 discussing barges that might be required to carry very
14 large loads and I don't know whether that would require
15 dredging or not, but certainly that is a possibility.

16 A As you are aware, with
17 the larger barges for modules, in most cases you
18 would bulk out before you weight out. In other words,
19 you wouldn't reach the maximum draught of the barge
20 with the modules on and normally they ballast the
21 barges with water and come in when they have a lighter
22 operation they pump the water out. We have been doing
23 some work on that and looking at it and we believe
24 that this can be accomplished so that we will have
25 sufficient draught to be able to navigate the Eskimo
26 Lakes without any dredging.

27 Q Have you thought of the
28 problems that might be involved in having to scale the
29 sides of the fingers of the Eskimo or Husky Lakes?

30 A Our preliminary studies

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1 indicate that we will not have to.

2 Q Now, you're going to be
3 involved, though, I understand, in the environmental
4 studies and I'm wondering if you will be doing any
5 studies to see whether that would have adverse effects
6 should it be required to be done?

7 A As I stated, we'll be
8 doing a detailed study at Husky Lakes and I think
9 that type of information will come from the studies.

10 Q Now do you have -- you
11 talked about studying whales and fish in that area.
12 Will you also be discussing birds and other sea mammals,
13 seals?

14 A I would expect it to be
15 a full environmental study, yes.

16 Q And how long will this
17 take? Can you do it in one year?

18 A Probably as you are
19 aware we have some information now which will start
20 to give us a basis to go from, and I would anticipate
21 that the first year of study should give us some
22 results, but it will probably continue for two or three
23 years.

24 Q Then it may still be
25 going on during the first year of barging.

26 A Yes, assuming the first
27 year of barging is '78 yes. Summer of '78.

28 Q I'll just confirm that
29 on the figure in the Gulf evidence. Figure 2 indicates
30 that there will be light barging, as I recall the

1 evidence that described this figure in 1977, that
2 may not be stepped up until 1979, but if your program
3 takes three years certainly by 19 --

4 A Yes, as you can see,
5 we talk about river barging in the year -- some
6 light river barging in 1977 and I think that if there
7 was anything of real concern or of real problems that
8 should be identified within the first year, which
9 would be 1976, and at that point we would make the
10 necessary changes, if required.

11 Q So you haven't ruled out
12 the possibility of recommending to Gulf Oil that there
13 be no intensive barging through the Husky Lakes?

14 A No. We're strictly
15 in a study stage at this period.

16 Q We've heard evidence
17 from your company that Gulf has not found sulphur
18 dioxide as yet, but they haven't ruled it out as
19 a possibility, though not a probability. Will you
20 be doing studies on the effects of sulphur dioxide
21 and perhaps other sulphur compounds on the environment
22 to recommend the level of pollution control that should
23 be installed in any plant that is to process sulphur
24 compounds out of gases?

25 A I believe in the data
26 that we will obtain on site specific, we will gain
27 sufficient data to indicate to us the concerns as
28 you've suggested in the event that we would come up
29 with some sulphur or HO₂ or H₂S..

30 Q And you are aware that

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Cross-Exam by Bayly

1 the Parsons Lake facility in particular is in an area
2 used by the reindeer herd.

3 A Yes, I am.

4 Q And you appreciate the
5 concerns with regard especially to lichens and their
6 vulnerability to sulphur dioxide.

7 A Yes, I am, and I might
8 also state that during my experience in the Parsons
9 Lake area the reindeer are basically restricted or
10 herded to the west side of the lake where the terrain
11 is much less hilly and rough than in the eastern side
12 of Parsons Lake, and to my knowledge they have not
13 been in the general area of our site.

14 Q But you are aware that
15 sulphur dioxide, if it is one of the --

16 A Yes, I am aware of that.

17 Q -- matters put into the
18 atmosphere may disturb and destroy the lichens in
19 an area larger than the immediate vicinity of the plant
20 itself.

21 A Yes sir.

22 Q There are some concerns
23 expressed in the big green book, the Imperial book
24 at 2-96, that's the page rather than the item
25 number , with regard to dust, and Mr. Rempel,
26 we've been told that you're not too concerned with
27 the dust problem. Have you examined it from the point
28 of view of whether it will cause early snow melt?

29 WITNESS REMPEL: Well, it
30 has been looked at and I would ask Mr. Webb to perhaps

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C ross-Exam by Bayly

1 make a comment there.

2 Q Mr. Webb, could you
3 comment on that?

4 WITNESS WEBB: To the effect
5 that there have been no specific studies, but we
6 recognize that dust along roads in particular may cause
7 changes in the albedo and would in fact result in
8 earlier snow melt within a reasonably short distance
9 or close to the road.

10 Q And if that happens,
11 have you done any tests to determine whether that
12 may cause problems with some of the plants starting
13 to grow too early and being killed off in a late
14 cold spell?

15 A No specific studies.
16 We have reviewed that situation in general and don't
17 feel that it is a serious problem. However, we stand to be
18 corrected if you are aware of studies to the contrary.

19 Q And with regard to dust
20 in the summertime and its settling on the various
21 lichens and plants, have you done any studies to
22 determine whether or not they are likely to have
23 adverse effects on the plants?

24 A I'm sorry, I missed
25 that -- the source of dust?

26 Q From the roads.

27 A Direct effect on the
28 plants themselves?

29 Q Yes.

30 A We have done no studies.

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Cross-Exam by Bayly

1 We are aware that there is a potential for some
2 abrasion and some damage to the vegetation.

3 Q Yes.

4 A Here again I believe that
5 it would be in close proximity to the road and not of
6 a nature that would contribute to significant secondary
7 problems, such as thermokarst.

8 Q Do any of the companies
9 contemplate plans to oil the roads or to add any
10 substances which will keep the dust down?

WITNESS REMPEL:

11 A I'm not aware of any
12 right now, but I certainly would not rule that out
13 if we had a serious dust problem.

14 Q I could refer Mr. Rempel
15 to 3-41, at the bottom of the page you're talking about
16 probable effects of the project upon terrain and the
17 last sentence says:

18 "Some provisions have been made to circumvent
19 potentially troublesome landscapes and a later
20 phase of design should accomplish that to a
21 further degree, and provision has been made
22 to survey developm^{ent} sites to detect and
23 prevent disturbance of unstable terrain."

24 I'm rather concerned with what you will do to avoid
25 trouble^{some} landscapes, and what you refer to as trouble-
26 some landscape. Is it terrain that's difficult to
27 build on or unstable terrain?

28 A Well, partly that could
29 refer to the gravel location where we do have obviously
30 a change of terrain contemplated.

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1 I think we say a little later on we don't expect any
2 serious erosion but certainly it was mentioned that
3 there will be a small amount of channel cutting in that
4 area and this would be identified as perhaps trouble-
5 some, if you want to use that word.

6 Q Mr. Appleton, with regard
7 to recreational fishing in your big white book at
8 3.144.

9 WITNESS APPLETON:

A What?

10 Q It's under actually 3.8,
11 I think, 3.144, you say that recreational fishing
12 in the area would be governed by the Canadian Wild-
13 life Service. Are you contemplating a change in
14 jurisdiction from the Fisheries Department, or is that
15 just an error?

16 A I would
17 say maybe that was a choice of the wrong words.

18 Q Yes, but you're just
19 contemplating that the government will be looking
20 after regulation officials.

21 A Yes, I think what we're
22 saying there is that if it was a particular species
23 of fish, or if a lake was -- had a problem in producing
24 fish then we certainly would keep away from it and
25 we would certainly make sure that our people obey all
26 the fishing limits that are set by the Territory.

27 Q Now, have you talked with
28 the government with regard to fishing regulations in
29 the area of the plant facility?

30 A No, we haven't. I think

1 this is partly due to the fact that we are going to
2 initiate further studies and we'd like to identify
3 the lakes that we would be concerned with as well as
4 the government would be concerned with.

5 Q And what about the local
6 people that may be using the fish here at present
7 particularly in the Husky Lakes? Would you be discuss-
8 ing this with them?

9 A I don't believe that
10 -- or perhaps I should rephrase that and say I don't
11 believe, I think we'd be working with the government
12 on that, yes.

13 Q You don't contemplate
14 going to, say, Tuktoyaktuk ?

15 A No, I think you've got
16 to realize that we as a company probably are just as
17 concerned about depleting a resource such as in the
18 lakes as other people are, and we're going to adhere to
19 whatever the government regulations are suggested
20 to us.

21 Q But in answer to my
22 question you don't contemplate going into the communi-
ties?

23 A I would think there might
24 be some discussion with them, yes.

25 Q Now, with regard to
26 surface disturbance again, Mr. Appleton, when you're
27 talking about environmental impact at tab 4, at 4.1,
28 you say at the bottom of the page, "that the adverse
29 nature of these physical effects would be largely
30 absorbed in the area's natural tendencies towards terrain

1 instability." Just what does that mean?

2 A Sir, I suggest at the
3 top of the next page is a continuation of that point
4 and that explains it fairly well.

5 Q Well, do you mean that
6 whatever you did wouldn't be noticed, or --

7 A No, I think what
8 we're saying there is that any physical effects that
9 we would have would relate strictly to slumping in
10 thermokarst, and these are natural things that occur
11 in the Parsons Lake area.

12 Q What do you mean by
13 "absorbed" in that? I don't think the top of the next
14 page has made it much clearer to me. You said that
15 they'd be absorbed in the area of natural tendency
16 for terrain instability. Does it may they would
17 get bigger and join other natural terrain disturbances
18 or --

19 A I think maybe that's a --
20 not quite the word that would describe what we're
21 thinking about. Perhaps Mr. Webb would like to answer
22 that.

23 WITNESS WEBB: My interpreta-
24 tion of the word, and it's perhaps not the correct one
25 to use, is that the magnitude of the scale of the
26 expected surface disturbances would be much less than
27 those that occur as a result of natural phenomenon
28 in the area, and would be relatively unnoticeable
29 because of that comparison in scale.

30 Q But you're concerned

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1 with these disturbances, I take it, Mr. Appleton, and
2 will be working with the engineers to advise how they
3 should be avoided.

4 WITNESS APPLETON: Yes, this
5 is a function of the engineering data that we gather,
6 such as the soils conditions to determine how much fill
7 and insulation would be required to prevent such an
8 occurrence from happening.

9 WITNESS WEBB: Mr. Bayly, if
10 I might add something to a discussion that derived
11 from Mr. Scott, and I notice he's not here but there
12 is another gentleman in his place, it has to do with
13 followup procedures on road construction in the
14 Parsons Lake area and it occurred that there is some-
15 thing else you can do other than putting gravel on the
16 area, and it has to do with prevention, but prevention
17 after construction. This has to do with potential
18 for drainage disruption, ponding against the toes
19 of the fill, etc., and I think it's important that
20 prevention of ponding of waters of this kind take
21 place as part of the regular maintenance and I think
22 this is one of the followup procedures that the
23 company can and certainly I think, is planning to do.

24 Q Let's go back, Mr.
25 Appleton, to flow lines around the east side of
26 Parsons Lake. You told us already that generally the
27 reindeer use the other side of the lake because it's
28 less hummocky.

29 WITNESS APPLETON: Less
30 hummocky, less rough in terms of overall terrain.

1 Q Do you feel that if the
2 reindeer were to be moved to the east side of the lake
3 that the flow lines would influence their movements?
4 I don't mean with the --

5 A No, I don't believe so.
6 I believe they could be herded quite adequately around
7 there. It might be noted that in the wintertime
8 the reindeer are basically in the Parsons Lake area
9 about April, till the end of April, maybe a little
10 later, and during our past few years there, the reindeer
11 have been on both sides of the roads and actually have
12 gone up the roads and we've actually driven past them
13 in our vehicles with half the herd on one side of the
14 road and half the herd on the other with no sign of
15 disturbance or frightening or anything else. So based
16 on the experience we've had to date I would not anti-
17 cipate any problems of moving, say, the reindeer along
18 the roads which would get them past the flow lines.

19 Q And with regard to the
20 flow lines themselves, how high above the ground are
21 they likely to be, have you been told that?

22 A I'm sorry, I'm not in a
23 position to answer that question.

24 Q Nobody's told you?

25 A We haven't done our
26 engineering on them to design them, so I really
27 couldn't say.

28 Q I see. Now, in your
29 big white book there is no information on whales and
30 are you relying on the Slaney work in that regard?

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1 A No, I think I indicated
2 previously that we'll be undertaking studies this year.

3 Q So the reason it's not
4 there is because nothing has been done by Gulf in
5 this area yet.

6 A That's true.

7 THE COMMISSIONER: Where will
8 you be undertaking the studies?

9 A Where or when?

10 Q Where will you be
11 studying this?

12 A I would imagine that
13 we will be undertaking a study in the general area of
14 the Liverpool Bay-Husky Lake area and probably en-
15 compass an area that would bring it up to an overlap
16 with the area that Slaney has done their work in.

17 Q And you'd be principally
18 concerned about the impact of barging material and
19 supplies in through the Liverpool Bay-Eskimo Fingers-
20 Husky Lakes area would have, is that it?

21 A That is correct.
22 MR. BAYLY:

23 Q Now, Mr. Rempel
24 perhaps I can address this question to you, as your
25 company appears to have the most extensive environmental
26 training program. Do you contemplate training northern
27 peoples, and particularly native peoples as part of
28 your environmental monitoring staff, if I can call it
29 that?

30 WITNESS REMPEL: We certainly
intend to use any that were willing and able, as we do

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C ross-Exam by Bayly

1 now, yes.

2 Q But you haven't got far
3 enough down the line to do any recruitment for this?

4 A Well, we're recruiting
5 at all times, as you probably know, and certainly if
6 we saw one that would fit into that category, I think
7 we would certainly have a good look at it.

8 Q Who will your inspection
9 staff report to?

10 A Pardon?

11 Q Who will the inspectors
12 or monitors report to?

13 A In administration at the
14 moment, they report to me, but the arrangement is that
15 they go directly to the manager of our frontier
16 operations and field services, our top manager.

17 Q Now, with regard to
18 grizzly bears -- and I'll address this question to
19 you, Mr. Appleton -- 4.3 you mention that harassment
20 of grizzlies might be expected but that no bear
21 dens would be destroyed, and at page 3.137 you acknow-
22 ledge that the grizzly is considered a threatened
23 population, and I take it that's the grizzly in the
24 area of Richards Island and Parsons Lake project.

25 WITNESS WEBB: Mr. Bayly,
26 I believe it's the entire barren ground grizzly
27 population across the --

28 Q Is that what that refers
29 to, Mr. Webb, not just this particular population?

30 A No.

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Q Because we have heard

--

THE COMMISSIONER: What page
was that on?

Mr. BAYLY: 3.137.

THE COMMISSIONER: Oh, here
we are. Sorry, what is it again?

MR BAYLY: I believe it's 3.137,
sir. I haven't found it yet either, sir.

MR. HOLLINGWORTH: It's under
"Land Use" at 3.6.

MR. BAYLY: Thank you , Mr.
Hollingworth.

Q If the people who make
up these reports could accept a small criticism from
somebody who's had a hard time finding things for
about ten months, consecutive page numbering might be
very helpful.

WITNESS APPLETON: That's
probably by design.

MR. BAYLY: I hesitated to
say it myself.

THE COMMISSIONER: No, they're
not so dumb.

MR. BAYLY: Q And Mr.
Webb, you're saying that that is not meant to apply
to this particular population as much as it is to the
general grizzly population in the barrens.

WITNESS WEBB: The barren
ground grizzly population, which has, I think, a

1 sub-specific level of taxonomic classification and
2 the delta grizzlies belong to that larger population.

3 Q We have heard some
4 evidence from a witness called by the Canadian Arctic
5 Resources Committee that this particular population
6 of delta grizzlies in the Richards Island area may
7 well be doomed because of hunting and industrial
8 activity. Do you share that view?

9 A No, I don't. It's not
10 an automatic thing that the population become extinct.
11 However, I think we all recognize that it is a large
12 wary and potentially dangerous carnivore and therefore
13 deserves respect and sometimes get fear, and this
14 means that if the situation demands, I think, a fair
15 amount of consideration. But if the situation were
16 to get that consideration I see no reason why the
17 population couldn't remain at about the current
18 level which we estimate at somewhere between 25 and
19 35 animals.

20 Q And the general problem
21 with grizzly bears and polar bears but we're just going
22 to discuss the grizzlies now, is that they become
23 associated with people's garbage and become a nuisance
24 and end up getting destroyed.

25 A The two species are a
26 little bit different in behaviour, yes. This is cer-
27 tainly true of the polar bear, less true of the
28 grizzly. It is attracted to garbage that isn't
29 incinerated but we found in our examination of the
30 situation on the delta that there has been very little

1 attachment to garbage dumps by grizzly bear. In fact
2 they avoid the camps and are rarely seen, in fact, by
3 people at the camps.

4 Q We've heard from Dr.
5 Lent that isn't true at Prudhoe Bay, and that in fact,
6 despite rules to the contrary, workers in the construc-
7 tion of facilities and pipeline workers feed both
8 grizzly and polar bears and cause them to become
9 accustomed to this. Do you have a way of dealing with
10 this?

11 A I hope they use a long stick.

12
13 Q Well, I'm not saying
14 it's a safe or sensible practice, but do you have
15 any solution to this, or is this just something that
16 is going to happen no matter what rules you make up,
17 in your opinion?

18 A Well, certainly educa-
19 tion, and if education along that line isn't gained
20 through other channels, it may occur rather disastrous-
21 ly, but --

22 Q That usually ends up in
23 the destruction of the bear though.

24 A This is the problem, this
25 is a concernⁱⁿ that people become frightened of the
26 bears being around and there is then generally a
27 call for their destruction. I can only repeat that
28 this problem has not developed around the staging
29 area camps on the delta, and around the drill rigs
30 on the delta at this point. The bears are quite wary,

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1 they are rarely seen, and yet they're there, as
2 evidenced from our survey.

3 Q The real problems have
4 been with polar bears in the delta region .

5 A Yes, right. Polar bears
6 view humans as a source of food ^{when they see them.} Grizzlies don't think
7 of humans that way, usually.

8 Q So the problem is not
9 bears, but people.

10 A In combination, right.

11 THE COMMISSIONER: You gave
12 a figure there. First of all you said that the barren
13 ground grizzly bear is considered a threatened popula-
14 tion, and you were speaking of the barren ground
15 grizzly population of the Western Arctic, so is that
16 what you meant?

17 A No, from here east,
18 Mr. Commissioner.

19 Q From here east --

20 A To Central Arctic, I
21 guess you would say.

22 Q And how many bears did
23 you say would be included in that range?

24 A I didn't, just because
25 I don't know the total population. I know the delta
26 population has been estimated at 20 to 35.

27 Q Right. That's the figure you
28 meant then. Well, we've been told that there are
29 approximately 1,000 grizzlies in the Western Arctic
30 and you're saying that those that inhabit the delta

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1 and along the coast to Central Arctic are regarded as
2 threatened, but the bulk of that population must then
3 live in the Northern Yukon, I should think. Is that
4 -- am I heading in the right direction?

5 A I think that's a fair
6 statement. The density of grizzlies is much greater
7 in the mountains of the Yukon.

8 MR. BAYLY: Q At page 3.135
9 of the Gulf material under the section on trapping,
10 and perhaps, Mr. Appleton, you could comment on that
11 sentence at the beginning which reads:

12 "Most trappers earn relatively little from
13 their lines but a few especially in recent
14 years of higher fur prices do well by northern
15 native standards."

16 Could you tell us the source of your statistics?

17 WITNESS APPLETON:

18 A I think I'll defer that
19 question to Mr. Webb.

20 Q Oh, Mr. Webb?

21 WITNESS WEBB: I'm sorry,
22 I was still thinking of grizzly bears.

23 Q Oh, all right. Go back
24 two pages and there's a section here on trapping,
25 the sentence reads:

26 "Most trappers earn relatively little from
27 their lines but a few especially in recent
28 years of higher fur prices do well by
29 northern native standards."

30 Will you tell me the source of your data for that?

A I can't, specifically

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1 that sentence. I can speak to the general source of
2 information of that section. Our mammalogist interviewed
3 trapper administrators and biologists for the Northwest
4 Territories and acquired what statistics they had on
5 file in terms of harvests and dollar values of those
6 harvests, and those data are in our reports. IN addi-
7 tion they interviewed a number of the native people
8 in all three of the major communities in the outer
9 portion of the delta -- Tuktoyaktuk, Aklavik and Inuvik,
10 I'm sure, I can't tell you how many or anything like
11 that, but I assume that that information came from
12 that source -- one of those two sources.

13 Q The data that you would
14 be relying on, that Gulf would be relying on in that
15 statement would come from the Slaney Reports.

16 WITNESS APPLETON : Yes.

17 WITNESS WEBB: That statement
18 sounds familiar, yes.

19 Q Mr. Webb, are you the
20 person who has assessed the delta crossing of Shallow
21 Bay by -- proposed by Arctic Gas and what its effects
22 may be on the beluga whale population that uses that
23 area?

24 A No, I have not done
25 so, Mr. Bayly.

26 Q So that would be some-
27 body else, either in Slaney's or on contract with
28 them.

29 A It's my understanding
30 that that is not within the terms of reference of any

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1 Slaney mammalogist or project team, as far as I'm aware.

2 Q Have you formed any
3 opinion from your general knowledge of the whales as
4 to whether the dredging of this crossing and the
5 activities surrounding it would have any effect on the
6 whale population, and if so, what those effects would
7 be?

8 A No, I have not formed
9 a firm opinion and I think I would want to consider
10 more specifically what the activity would be, and whe-
11 ther or not it is proposed at a certain time of the year.

12 Q Now you've told us that
13 because of the different dates the whales come into
14 this area, that the month of July has to be seen as the
15 time during which they will come into Shallow Bay.
16 It may be earlier or later, depending on ice condi-
17 tions and other factors; is that correct?

18 A Yes, that's essentially
19 correct.

20 Q So that whatever activity
21 were planned, it should have in mind that the whales
22 might be there at any time in that period in a given
23 year, and it can't be accurately predicted.

24 A I think it's safe to
25 say that it's probably the only month that there can
26 be an interaction.

27 THE COMMISSIONER: That's in
28 Shallow Bay?

29 A In Shallow Bay.

30 MR. BAYLY: Q But that doesn't

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1 necessarily refer to Liverpool Bay, which I gather
2 is not in the area that you studied.

3 A Yes, that's true. It's
4 my understanding that the whales may be in Liverpool
5 Bay for a different reason, but for a longer period.

6 THE COMMISSIONER: What would
7 the reason be, if we may be allowed to know?

8 A I'm not sure. By pro-
9 cess of elimination I know or feel sure that it's not
10 for calving purposes. But what's in their minds I
11 couldn't imagine.

12 MR. BAYLY: Q Now, we got from
13 Dr. Bliss some figures on the numbers of whales that
14 are probably in this population and he produced a
15 slide with a chart on it that talked about kill figures
16 and loss from hunting and other sources to establish
17 whether or not the herd could support the kill that
18 it now gets from local hunters. Are those figures
19 that came from either you or Slaney, or could you com-
20 ment on whether you agree with them or not?

21 A I think Dr. Bliss would
22 probably accept the responsibility for almost all of
23 the steps in the models, the rough models he showed
24 you.

25 Q He would have to.

26 A No, I think it's a very
27 rough approximation. As a wildlife manager I don't
28 think I'd want to base a management recommendation on
29 that level of information.

30 Q All right, I don't think

1 he was suggesting we should, but he was giving it as
2 an approximation. That isn't the figure, though, that
3 was generated by you.

4 A No, no, but it's an
5 illuminating way to look at the situation in our
6 present stage of knowledge.

7 Q Have you looked at it
8 in a similar way yourself?

9 A No, not specifically.
10 We do have rather specific harvest figures for whales
11 at the three camps, actually more than three camps,
12 over the last three years which if you're interested
13 in, Mr. Commissioner, I could read --

14 THE COMMISSIONER: Yes.

15 A Now this is retrieved
16 harvest of whales for Shallow Bay, or West Mackenzie
17 Bay or both in combination, I guess, the Kendall
18 Island area and we know that the Kendall Island hunters
19 hunt a few miles away from Kendall Island, and the
20 Kugmallit Bay area, the hunters there are generally
21 from three sources, from Tuktoyaktuk itself, three
22 points of origin, that is -- Tuktoyaktuk and Whitefish
23 Station east, and Kittigazuit. In Shallow Bay in
24 1972 the harvest we estimated at 33 animals; in 1973,
25 20 animals; in 1974, 30 animals; and again in 1975
26 I'm given to believe, although the information is not
27 at hand, that the harvest in the Shallow Bay -West
28 Mackenzie Bay area was again around 30 animals in 1975.

29 Comparable figures for the
30 Kendall Island region, 4 in 1972; 7 in 1973; and 2 in

1 1974; and I'm afraid I don't have the 1975 figure, but
2 it's in the same general range.

3 In the Kugmallit Bay area,
4 we recorded 76 animals harvested and brought back to
5 camp in 1972; 150 animals in 1973; and I think the
6 difference there can be directly associated with the
7 different ice conditions of that year. The whales
8 got in quite early and were there in numbers. In 1974
9 the harvest was about 90 animals in Kugmallit Bay;
10 and I'm given to understand that in 1975 it was in the
11 same general range.

12 So totals for those years
13 were 113 animals in 1972; 177 in 1973; 122 in 1974;
14 and about the same number, about 120 in 1975.

15 Now I might add that we had
16 a biologist that visited along with a member of the
17 Tuk community all these campsites but that nevertheless
18 these figures are not that precise and may vary a
19 few. I think they generally correspond to the figures
20 that have been derived by the Federal Government
21 authorities. I might also point out that there was
22 island building activity in the East Mackenzie Bay
23 area during all four of these years.

24 Q There was what?

25 A Island building activity.

26 Q M-hm.

27 A And there was also, of
28 course, barge traffic and boat traffic to both, through
29 Shallow Bay and out East Channel. We don't have a
30 record as to how much. A lot of it was not associated

1 with island construction activity, of course.

2 So in conclusion we think that
3 these figures show a greater degree of correspondence
4 with the kind of ice shear and therefore the number
5 of animals that get into the delta region, rather than
6 a reflection of island construction or boat traffic in
7 the area.

8 MR. BAYLY: Q I take it the
9 data gaps with regard to the whales include the ones
10 that are outlined by Dr. Bliss, one that the winter-
11 ing grounds of this herd of whales is not yet established.

12 A Yes, I think that's a
13 fair statement. The general feeling is that they
14 winter somewhere to the west although strangely enough
15 they come to the delta from the east every spring and
16 there have also been whales sighted at odd times of
17 the year such as in January in parts of the
18 eastern Beaufort Sea and Amundsen Gulf. So we feel there
19 is a possibility that some whales in at least some
20 years don't make it back to Siberia, and may in fact
21 winter in very small leads or polynia, as they are
22 called, open water areas, somewhere in the eastern
23 Beaufort Sea. Perhaps some people in the audience
24 have direct evidence of this.

25 But you are quite right.
26 The wintering area is not precisely known, neither is
27 the total herd size.

28 Q And --

29 MR. BALLEM: Mr. Commissioner,
30 I was just going to make the comment that it's obvious

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1 that we have retained Slaney & Associates to do quite
2 extensive work with the whales over a three or four-
3 year period, and that has, I believe in each year,
4 resulted in a report, a fairly voluminous and fairly
5 comprehensive report, and if you feel it would be
6 helpful we would be prepared to file that report with
7 the Commission, if you would like to have it.

8 MR. GOUDGE: I think that would
9 be very helpful, sir, I understand that the reports
10 are available right up until 1975, and that report
11 is in the course of preparation.

12 MR. BALLEM : Yes. Mr. Webb?

13 WITNESS WEBB: Yes, that's
14 right.

15 THE COMMISSIONER: Well, I
16 think that we would like to have any that we don't
17 have. That would be very good of you.

18 MR. BALLEM: Well, we'll
19 file them then. We have one copy here so we'll file
20 that this afternoon.

21 THE COMMISSIONER: Fine then.

22 Q Mr. Appleford, you said
23 -- I've forgotten your -- oh, you're Gulf --

24 WITNESS APPLETON: Right.

25 Q You said that your
26 company was about to undertake a study of the relation-
27 ship of barge activity at Liverpool Bay to whales --
28 the habits and movements and so on of whales. Have
29 you -- when will that study get under way and who is
30 going to do it, and how long will it take?

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1 A I would anticipate that
2 we get under way this spring and to date we have not
3 chosen a firm to do the study for us.

4 Q I see, and you're not
5 in a position to indicate how long it might take to
6 complete this study?

7 A No, I'm not. I think
8 that would depend upon the findings we find out during the
9 first year.

10 Q But you have barge
11 traffic already coming through there to Parsons Lake,
12 have you?

13 A No, we do not. There
14 has been barges through there, I believe a couple
15 of companies, I believe Elf at one time had somebody
16 pick up a rig in the summertime there.

17 Q Who had?

18 A Elf Oil.

19 Q Elf.

20 A Yes sir. Not down as
21 far as we're talking about, but into the general area
22 of the Husky Lakes.

23 THE COMMISSIONER: How are
24 you getting along here, Mr. Bayly?

25 MR. BAYLY: I'm very close
26 to being finished, Mr. Commissioner.

27 THE COMMISSIONER: Well, we'll
28 let you carry on then and then we'll stop again for
29 coffee; but I have a note that a Mr. Paul Koe from
30 Aklavik would like to make a statement, and ask Arctic

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Gas and Foothills some questions. He was not in Aklavik when we were there, that is when the Inquiry was there in April, and is leaving for Yellowknife tonight. Perhaps when you've finished your cross-examination and before we adjourn for coffee you would let Mr. Koe -- I'm sure I'm pronouncing your name wrongly, sir, but that's the best I can do at the moment -- let you make your statement then and ask these questions.

MR. BAYLY: Mr. Commissioner, if it's more convenient, I'm not leaving for anywhere tonight and I'd be happy to stop now and continue after Mr. Koe's finished to ensure that he gets his whole statement in.

THE COMMISSIONER: Well, is that all right with counsel?

MR. GOUDGE: I think so, sir.

THE COMMISSIONER: Well, if you'd like to, sir, you can -- we'll stop for coffee after Mr. Koe's finished. You can let him have the table and if you'd like to come up here, Mr. Koe and make your statement. We'll stop for coffee and you can do it after coffee. Is that all right?

(WITNESSES ASIDE)

(PROCEEDINGS ADJOURNED FOR A FEW MINUTES)

P. Koe
In Chief

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

THE COMMISSIONER: Mr. Koe, fine,

we'll hear from you now and maybe Mr. Hollingworth, you could take another chair for the -- so I could at least see Mr. Koe.

PAUL KOE, sworn:

THE COMMISSIONER: Go ahead, sir.

WITNESS KOE: Yes. I wonder where the representative for Arctic Gas and the Foothills are?

THE COMMISSIONER: They're sitting right in front of you. This is Mr. Marshall in the brown suit, for Arctic Gas and Mr. Hollingworth in the blue suit and his colleague, Mr. Ellwood in the sweater right in front of you.

WITNESS KOE: Well, most of my questions are directed to them.

THE COMMISSIONER: OK.

WITNESS KOE: Because I'm presently a member of Nortran training -- I'm on training for Arctic Gas and I want to know what like mostly you know from my experience from them is that I've been working for them for a long time now for about six months. Then I want to know after this we've just been trained on working on rigs on oil rigs and I want to know what's after you get the pipeline through what's to become of us?

THE COMMISSIONER: Mr. Ellwood do you -- Mr. Ellwood, speaking now is from Foothills.

MR. ELLWOOD: Well the drilling activity and the work on the drilling rigs

P. Koe, Motyka
In Chief

will not stop once the pipeline is in place, in fact we would expect that the drilling will increase once the pipeline is given the go ahead. So, I really don't know how many years one would expect them to be drilling in this delta area. Perhaps some of the representatives of the producing companies could give us some indication of that. I would think that for many years after, there will be drilling activity going on here.

A Once it stops what's to become of us anyway? Like, we're trained for that but what's ^{to} become of us once it stops?

MR. BALLEM: We have with us the chairman of Nortran, would that -- might he be of any assistance here?

A Yes.

MR. COMMISSIONER: There's your answer. Well, where is the chairman. Yes sir, well maybe you could be sworn and take a seat here if that's all right.

MR. MOTYKA, sworn:

WITNESS MOTYKA: My name is Motyka -- M-o-t-y-k-a. Employed by Gulf Oil.

THE COMMISSIONER: And you are the chairman of Nortran?

A I'm the chairman of the steering committee of Nortran, yes.

THE COMMISSIONER: OK, well carry on Mr. --

WITNESS KOE: Yes. Well, as I

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said before, what's to become of us after all the drilling activity is gone?

WITNESS MOTYKA: Paul, I'd like to make it very clear to you and all others concerned that the prime objective of the Nortran steering committee and participants is to ensure that there are career opportunities for all northerners who are interested in working in the petroleum industry. I wish to stress career opportunities. The on-going activities of the training programs are such that an individual level of competence is challenged and as he makes those challenges additional opportunities are made available to him. And Paul, the opportunity available to you is subject to your own capabilities -- nobody else's.

WITNESS KOE: At the moment now we're training to be drillers. Once we become drillers -- like you said our training is to become part of our capabilities, what we can do and all we're going to be trained for is drillers. What's to become of us then? I want to know.

WITNESS MOTYKA: At such times as you become a driller, Paul, there, to my knowledge, will continue to be requirements for drilling people for a good number of years to come. However, when you become a driller, you might find that there is some higher career opportunity that you want to pursue and it is the objective of the Nortran group to provide the opportunity for you, as your desire arises.

THE COMMISSIONER: I think that I should add that -- I'm only going on what they've told

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me at these hearings, but they've made it clear the industry has made it clear that if the pipeline is built, they expect there will be more drilling going on after that. More exploration, more drilling in connection with exploration than ever before so if they do train you to be a driller and the pipeline is built, they'll -- from what we've been told there'll be lots of drilling to do, but this, Mr. Motyka --

WITNESS MOTYKA: Motyka, sir.

THE COMMISSIONER: Forgive me.

A I do.

THE COMMISSIONER: Is saying is that -- is that if -- if you want to do something else after you've become a driller you might want to do something else in the industry. They would like to be able to give you the chance.

WITNESS KOE: Excuse me, but I've been told that it takes ten years to be a driller. I mean after that you know -- pretty well mostly every one that I know -- then everyone on the training program is over the hill.

WITNESS MOTYKA: That gives lots of opportunities for you then Paul, because you're far from there.

THE COMMISSIONER: I should have kept my mouth shut. That's all I can say.

WITNESS MOTYKA: The one thing, I would like to make it very clear -- Again I stress the career opportunity and it has been the objective of the Nortran participants to -- subject to people

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performing adequately in the job that they occupy, to
guarantee these individuals employment opportunities
in the north as well as the south and the commitment
has been such that in the event that activity did
terminate in the delta, these people, if they wish,
do have opportunities to work in the south on the pay-
rolls of the participants. And that is a guarantee,
Paul, that you know exists. It has been said to you,
I'm sure, a number of times.

WITNESS KOE: As far as I've
been informed, I haven't heard that yet.

WITNESS MOTYKA: Well, please
be assured that that is in fact the truth.

WITNESS KOE: Will you back
that up?

WITNESS MOTYKA: You just heard
me say so.

THE COMMISSIONER: It's been
written down too. He's in the glue.

WITNESS KOE: When I signed
a contract to go on the training I never heard that.
I never heard that before.

WITNESS MOTYKA: Well Paul,
think that we all at various times, are exposed to
opportunities where we don't remember what happened.
I am sure that if you ask your councillor, I believe is
Ed Linney?

WITNESS KOE: Yes.

WITNESS MOTYKA: That Ed Linney
will re-affirm and in fact show you in writing the kind

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of words that I'm attempting to communicate to you now.

WITNESS KOE: Yes. And Mr. Berger, Judge Berger, there's a few other things I'd like to know about -- like is Foothills program run in the same way?

THE COMMISSIONER: Well, Mr. Ellwood, you'd better answer that.

MR. ELLWOOD: Well, Mr. Koe, we're one of the sponsoring companies of the Nortran program. We don't have our own. We help sponsor the Nortran program along with all the producing companies here and Canadian Arctic Gas and Trans Canada Pipelines.

WITNESS KOE: And there's another thing I want to know about -- polar bears. Like myself I've been experienced seeing a man chewed^{up} by a polar bear and I was work -- at the time I was working for Geophysical Services, Incorporated and what prevention do you have against that? I mean to the individual like myself. I mean the guy wasn't doing anything to tempt the polar bear, he just came all by himself.

THE COMMISSIONER: Well, the men that were sitting here a minute ago, we're going to have them back after you've had your say and we'll ask Mr. Webb, I think, to comment on that. I'm sure he's here, listening.

WITNESS KOE: Yes, could he comment on it now? Could I ask him?

THE COMMISSIONER: All right, I'm sure he would. I'm just looking around for him. Mr. Webb, do you want to take your seat here and--

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ROBERT WEBB, resumed:

WITNESS WEBB: I'm not sure I'm the one to answer, but I'll try if I can have the question again.

THE COMMISSIONER: He said that he's seen a man attacked by a polar bear while he was working in the bush for Geophysical Services and he said the man did nothing to attract the bear or to provoke him so what protection would be offered for workers in that type of situation?

MR. BALLEM: . Mr. Remple has joined in because I think he is more directly connected with that. We will soon have everybody back.

GERHARD REMPEL, resumed:

WITNESS REMPEL: I'm with Imperial Oil and most of the work that is now going on in the area that you're talking about that is subject to the influx of these bears. We now have native monitors on all of those operations who are there to tell us and warn us when a bear is in the vicinity at which time we report it immediately to the Northwest Territories game and other people and if necessary the first thing they do is they try and scare the bear away. We have some equipment for that. Secondly, we get one of the game officers will come out and tranquilize bear, if possible, and move him ^{out} with a helicopter and finally, if the bear is still a danger to human life, it is -- permission is usually given to shoot the bear by the monitor.

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WITNESS KOE: Excuse me, but
in this -- in the case I'm talking about -- it's a
matter to kill or be killed --

WITNESS REMPEL: Well, you're
talking now about recently or in the past? If it's
a question of kill or be killed?

WITNESS KOE: What I'm talking
about is that I want to save human lives and I want to
save the polar bears' lives too.

WITNESS REMPEL: Well, as I
mentioned we do have the -- this tranquilization and
moving the bear away by helicopter, if it is a matter
of endangering somebody's life, then the bear is shot.

WITNESS KOE: Yeah, but as far
as I know, the -- the guys that work that operate the
camps like for say, the party manager doesn't have the
right to shoot the bear. He doesn't have the weapon
or anything. Is that authorized?

WITNESS REMPEL: I can only
speak at the moment for Imperial Oil where we have
these bear monitors.

WITNESS KOE: Well, could I talk
to the judge. Judge Berger, could I talk to the guy
that's here for Lands and Forests or do you have a
representative from them?

THE COMMISSIONER: Well, I
could ask, I suppose. Is there anybody here from
Lands and Forests? I don't think so. I don't think so
but you carry on. You made this point very effectively
and I'm sure that we'll all remember it.

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WITNESS KOE: Yes but he didn't deliver the answer I want. I want an answer. It's matter of yes and no.

THE COMMISSIONER: Look that happens to me, too. I think that he's tried to answer it and you tell me what you think is wrong with his answer then.

WITNESS KOE: Well, I think that you know -- he's not sure what he's going to do. I mean, I'm not sure either, but I think they should be shot when they're seen providing that Lands and Forests would provide the weapons to shoot them. Because it's a matter of human life.

THE COMMISSIONER: You said that You're talking about seismic crews at the moment?

A Yes.

WITNESS REMPEL: I'm talking about Imperial operations where we are in those areas where the -- the operation might be endangered by a bear coming in.

THE COMMISSIONER: That'd be seismic or a drilling rig, wouldn't it?

WITNESS REMPEL: Yes, that's right.

THE COMMISSIONER: And you say that now you have native monitors at each of those sites?

A Yes.

Q Are they armed?

A Yes.

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WITNESS KOE: Well, when I was out there this spring I -- this summer I haven't seen anybody being armed, there's no guns allowed in camp.

WITNESS REMPEL: When you're talking about summer time --

WITNESS KOE: I'm not talking about summer, I'm talking about winter.

WITNESS REMPEL: Were you on an Imperial camp?

WITNESS KOE: Yes, I was. I wasn't working for Imperial but I was working for GSI. And Teledyne(?).

WITNESS REMPEL: Well, we would have a monitor in the area, if it was in an area subject to influx of bears.

WITNESS KOE: Are they provided with that now. For the safety of the camp, that is?

WITNESS REMPEL: I'd better make sure I understand what you say. We provide the monitors who are natives -- and they warn us when there is a bear in camp. And naturally, if his life or anybody else's life is endangered, then he will shoot the bear.

WITNESS KOE: Yeah, OK. That's all I wanted to know. And there's another thing, Mr. Berger. This summer I worked at Parsons Lake and the lake itself -- like I was out in the middle and I couldn't stand up. I mean it's shallow. There's supposed to be gas discovered underneath this lake and what's to become of that. Are they going to take the gas out or

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are they going to save the lake or drain it or -- I want to know what's to happen about that?

THE COMMISSIONER: I think somebody can tell us. That would be Gulf.

MR. BALLEM: Would you like somebody more?

WITNESS MOTYKA: I believe I can answer that. Paul, the gas that we have discovered, I am with Gulf, incidently, the gas that we have discovered in the Parsons region is found at^a depth of 8500 feet to about 10,000 feet below the lake's surface and as a result, there should be no relationship between the depletion of the gas reserves and the water depth in Parsons Lake.

WITNESS KOE: Yeah but will the land -- what about the land?

WITNESS MOTYKA: I'm sorry Paul. I -- what about the land?

WITNESS KOE: Yeah, will it be damaged when you do put the pipeline in?

WITNESS MOTYKA: Paul, the group that talked about, this morning, and the group that are now talking on the environmental matters are attempting to explain to this group and anybody else who is interested, the manner in which we will conduct our business so as to minimize any damage as you would define it.

WITNESS KOE: And, -- Mr. Berger I have a direct question to ask you, yourself. Far as I know, the native people don't want to hear about

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land development. Want to know about our land claims.
Do you have an answer for that?

THE COMMISSIONER: No, that's
4 something that I'm listening to what the people have
5 to say about that and I've heard, as you know what a
great many of the native people have said about land
claims since March of last year when I began these
8 hearings and I expect that we'll hear from the Inuit
9 people. We're visiting their villages over the next few
10 weeks. But after that, I'll make my report to the govern-
11 ment and then the government will have to decide.

12 WITNESS KOE: Mr. Berger, in
13 your opinion, do you see a land settlement in the near
14 future or --

15 THE COMMISSIONER: Well, I have
to simply say that I will listen to what you and all
the other people who live here in the north have to
tell me and then I'll make my report to the government.
And then the government will have to decide what they
want to do and I'm listening to all of you who have
expressed opinions about this and I'll certainly take
it into account. That's -- I still have to hear what
others have to say, and until I've heard what all the
people want to tell me, I can't make my report.

25 WITNESS KOE: And, Mr. Berger
26 how soon do you think ^{you will} be able to give your report?

27 THE COMMISSIONER: They're
laughing at me, don't -- Mr. Scott who works for me
and has had a lot to say on this subject says that I'll
have my report ⁱⁿ before the end of the year and I think

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that's -- I think that's a good guess. I think maybe that I've helped you all I can. I haven't helped you all I can?

A No, I don't think I have received any answers, yet. To what I want to know, that is. I'm just trying to think of what else I've got to say. Thank you very much for your cooperation, Mr. Berger, I think I'll have to excuse myself for a while.

THE COMMISSIONER: Well, thank you, Paul, really, we all enjoyed hearing your opinions and we didn't have the answers I guess --

A That's too bad, I'm not too well informed, but I'll be back in a couple of minutes.

THE COMMISSIONER: Well, I think you've shown yourself to be well informed and I appreciate your coming.

A I didn't think I was.

THE COMMISSIONER: Well, We'll we'll have these people back again and you're welcome to stay and listen to what these gentlemen are saying.

A That's exactly what I want. I want all four of them up there.

(WITNESSES ASIDE)

MAX EUGENE WOPNFORD,
ROBERT WEBB,
GERHARD REMPEL
GORDON ROBERT APPLETON, resumed

THE COMMISSIONER: Just before we start in again, could I just -- the next panel will be the socio-economic panel which Mr. Sider, Mr. Todd and Mr.

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Cross-Exam by Bayly

Wopnford and maybe I could just ask the members of that panel to consider what I'm about to say. We won't get to you till Monday anyway and you may want to think about it. I was -- I thought that what Mr. Pederson from Coppermine and the other people from Coppermine said was very interesting and certainly points that Mr. Pederson made were made quite effectively and that Gulf employment program at Coppermine had there been employment programs comparable to that in the other delta communities -- Aklavik, Arctic Red, Fort McPherson, and Tuk? If there have been, what has been the success of the programs and if they haven't been as successful as the Gulf program -- I'm looking at you Mr. Wopnford, because you're on that panel too, I think. If they haven't been as successful as the Gulf program, what are the elements that distinguish the Gulf program from the Gulf program at Coppermine from the other programs? At any rate, maybe the panel might just comment on that, because we've heard from Dr. Hobart and we've heard from the people in Coppermine and -- and it might be helpful to -- to see what the industry has learned from that.

WITNESS WOPNFORD: I presume you want their comment -- I presume you want their comment on Monday?

THE COMMISSIONER:

Yes, Yes, I'm sorry I'm just looking at you because you're -- you'll be back with us on that panel, I understand. All right, Mr. Bayly, I think we're back to you.

CROSS-EXAMINATION BY MR. BAYLY (CONTINUED):

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Cross-Exam by Bayly

Q Mr. Webb, I think where we left off, we were discussing data gaps in the -- in our knowledge of the Beluga whale -- once of which we covered and that was the wintering areas. The other one you mentioned was not having an accurate census of the population or one that you feel perhaps is even adequate and I gather from your earlier evidence that we're not -- we don't have all the knowledge that would tell us where the calving occurs although by deduction we assume that the calving occurs fairly close to the time in which the whales are first seen in Shallow Bay?

WITNESS WEBB: And this pattern is repeated in clearer water on deltas in the eastern Arctic. So that leads us to deduce that whale -- that calves are dropped here.

Q Right.

A But with respect to the population count, I would say that -- that the censuses taken in the delta area per se are accurate enough for the points at hand that we've been discussing. What I was concerned with was the accuracy required for management of the harvest and that's usually an order of magnitude higher and I think we're -- we're a little short there, yet.

Q And, you talked about the reasons which you attribute to the whales coming into the waters discharged from the Mackenzie -- one of them being the warmth of the water and the other being the relative calmness of the water. These are hypotheses I take it. And this hasn't really been established, would

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Cross-Exam by Bayly

A No, you're quite right.

Hypotheses based on the process of deduction and the thermo-regulatory processes of newborn calves are not extremely well developed and it's reasonable to assume that they would benefit from exposure to warmer water immediately after parturition. And we do notice that whales of all ages don't like waves breaking over their back when they're -- if they can possibly avoid them, so they do take shelter behind islands and spits in rough weather.

Q Given the knowledge that we have on the reasons for their coming into Shallow Bay, it would be difficult to assess, I suggest to you, what the impact would be of their loss of this habitat, either in a year or in a series of years?

A Yes. Although I think that is in the realm of speculation that perhaps we need not really concern ourselves with, that we have no evidence to my knowledge that there would be a loss of the habitat per se. The kinds of inter --

THE COMMISSIONER: What would create a loss of habitat? What did you urge would?

MR. BAYLY: I was just suggesting that we have no way of assessing what the consequences of the loss of this habitat -- this area of their habitat would be either in a single year or in a series of years.

THE COMMISSIONER: Supposing, for instance that construction activity in Shallow Bay

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Cross-Exam by Bayly

1 barred them from Shallow Bay?

2 MR. BAYLY: If that were some-
3 thing that barred them from that area, then that would
4 be a loss of that habitat in that year. I assume from
5 Mr. Webb's evidence it might just as easily be a -- a
6 fleet of motor boats.

7 THE COMMISSIONER: Well, if
8 they couldn't get into Shallow Bay, that's a loss of
9 habitat for the month of July I suppose, do you want
10 to comment on that?

11 A I think that
12 Mr. Bayly is essentially correct. It would be very
13 hard to pin down the biological consequences of that.
14 Fortunately, if it's a one year situation, the rate
15 of turnover of the Beluga in general is such that we
16 know something about the magnitude of the possible
17 effect. Given the worst possible case which I assume
18 would be the loss of calves, perhaps, though I'm not
19 suggesting that this would happen, in fact I think it
20 would be quite a bit less than that. But given that
21 worst possible case, on a one year situation, with the
22 females breeding every three years, the animals living
23 a very long time -- I think we could say with certainty
24 that it wouldn't mean the demise of the herd.

25 Q Now, you're willing to go
26 as far though as to say that this area is an important
27 area to a portion of the population? For whatever
28 reasons and despite our lack of understanding of ?

29 A That's an assumption
30 based on their obvious preference for it. Maybe they

Wopnford, Appleton, Webb, Rempel
Cross-Exam by Bayly

1 just feel more comfortable there, that's also a
2 possibility, but we do assume that there is some
3 ^{value} survival for some members of the herd, yes.

4 Q And it's the same process
5 that leads -- that is, the same assumption process that
6 leads us to believe that when you fly over the whales
7 at 150 feet and they don't move out of the area, that
8 they aren't disturbed?

9 A No. I think it's safe to
10 make the observation that the -- they may be "disturbed".
11 But that degree of disturbance doesn't move them from
12 the area that they seem to prefer.

13 Q Now, if we made the comparison
14 between whales and eider ducks that are nesting and
15 that's a big jump I know, but eider ducks when they are
16 nesting are very difficult to drive off the nest, that
17 doesn't necessarily mean that they aren't disturbed.
18 Now what I'm suggesting to you, is we don't know the
19 level of disturbance that is caused by the airplane
20 just because we don't see them charging away at a
21 great rate?

22 A I think that's true. There
23 may be a certain anxiety there for a moment.

24 Q We don't know whether it
25 throws them off any of their habits -- their feeding --
26 if it occurs at the time when they are feeding or whether
27 it causes a loss of energy that may affect them later
28 on.

29 A Quite true. My personal
30 opinion is that infrequent over flights would not cause

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Cross-Exam by Bayly

1 a serious consequence of the nature that you're dis-
2 cussing.

3 Q And looking at it from the
4 from the people point of view, it may be -- the
5 significance of the loss of Shallow Bay for a year or
6 more would at least be more measurable for the people
7 that count on whaling at Whitefish Station for example,
8 than it might be on the whales themselves?

9 THE COMMISSIONER: What's that
10 again -- I'm sorry -- the what?

11 Q We've been able to count
12 the number of whales that have been harvested from
13 Whitefish station for a period of four years so we know
14 what that loss would be if the whales for some reason
15 failed to come into the bay in a given year, approximate-
16 ly.

17 A The majority of the whales
18 taken are taken in the west Mackenzie Bay area. It's
19 hard for me to visualize that they would vacate that
20 region in the face of the construction as I -- as I
21 don't know it, but I assume it to be. I would think
22 that the opportunities for harvest would be materially
23 similar -- not dissimilar -- but I would like to know
24 more about the kind of activity and the duration of the
25 activity and the intensity of the noise, the infrequency
26 of the noise -- and things like that before I could,
27 would stand behind that judgment.

28 THE COMMISSIONER: Well the --
29 there are two things that concern us here. One is that
30 you've told us in a very helpful way, all that we seem to

Wopnford, Appleton, Webb, Reripe
C ross-Exam By Bayly

know about the Belugas, which isn't an awful lot.

A I haven't seen a nest --
a Beluga nest, Mr. Commissioner.

THE COMMISSIONER: Well, no I'm --

A A weak attempt at levity,
I'm sorry.

Q Sorry, I think we've just
about reached the stage where we have to call a halt
to this till Monday, but maybe you'd just comment on
this and, Mr. Bayly, I only interrupt because I want
to make sure I understand Mr. Webb's testimony. We
know something about the movement of the Belugas in
summer. Something about the numbers in the Beaufort
Sea, about 5000. You've told us that they can be found
in the summer in the estuary of the Mackenzie. You've
given us those three principal locations -- we are
concerned about the proposal to build the pipeline
across the delta which obviously means crossing a
body of water that they use in considerable numbers,
when they can get in there. And twice, in the last four
summers they've come in there. Last year, 4000 of them
I think you said so, --

A No, No. Not that number --
there were 4000 in all areas together.

Q Forgive me. I'm just
trying to summarize what I think you and Dr. Bliss have
told us. The -- what you've just said to Mr. Bayly
indicates that your view is that the harvest from the
point of view of people who are at Whitefish Station
if the construction in the summer barred the whales

Wopnford, Appleton, Webb, Rempel
Cross-Exam by Bayly

1 from getting into the Shallow Bay. I don't mean barred
2 in the sense of physically barred, if activity led to
3 them not going in -- you don't think it would have any
4 impact on the harvest of those people? I suppose your
5 principal concern would be whether that would mean there
6 would be fewer calves born to the herd -- that particular
7 year. That's more the type of concern you'd have?
8 So far, I'm with you, am I not?

9 A Yes. I think in essence
10 of what we've discussed, yes.

11 Q That figure of 4000, I
12 obviously was wrong there. What figure should I have
13 substituted? I thought you told us that on two out of
14 four summers large numbers of them came into Shallow
15 Bay in July as far as the mouth of Reindeer Inlet?

16 A I don't-- I'm afraid
17 I don't have numbers of animals that have been seen
18 in that far, but in the west Mackenzie Bay area -- off
19 Shallow Bay -- there are usually between one to two
20 thousand animals.

21 Q I see. And the other
22 thing that I suppose is significant is that natural
23 conditions have restrained them from entering Shallow
24 Bay two of the last four years? I've got that right,
25 have I? Whether it is the ice leaving late in
26 the summer or whatever it may be?

27 A I'm not sure what it is
28 that has restrained them. Perhaps it's an artifact of
29 our infrequent observations. We tried to fly regularly
30 during the period that the whales were there, but

because of fog and weather conditions and so on,
weren't able to observe them daily.

Q You mean they might have
been in Shallow Bay and you just didn't see them?

A They may have been in there
more frequently but they weren't in there every time
we had a good surf.

THE COMMISSIONER:

Right. Well, sorry, Mr.
Bayly, carry on.

MR. BAYLY: Mr. Webb, just
following up that question, we're not only concerned,
I take it, with the possibility that if Shallow Bay were,
and Mackenzie Bay were even partially unavailable to
them for the length of time that they generally use
these areas, we'd be concerned perhaps with the survival
rate of calves as well as the -- as the birth rate of
calves.

A It would be the survival
rate and not the birth rate. The birth rate would be
the same, I'm sure. Under all circumstances.

MR. BAYLY:

Those are all the questions
I have for this panel, thank you very much.
MR. GOUDGE: Do you want me to
begin, sir?

THE COMMISSIONER: Well, I think
that if you won't finish this afternoon, we might as
well adjourn because I think that everyone's a little
tired. But perhaps these gentlemen would like to get
the plane if there is one and go back home, assuming
you don't live in Inuvik and maybe you'd like to confer
with Mr. Ballem. I don't mind sitting a little later
to help these gentlemen out.

Wopnford, Appleton, Webb, Rempel
Cross-Exam by Bayly

MR. BALLEM: I think they'd
be quite prepared to stay over. I don't think there's
any problem. It might be more useful if we did come
back refreshed on Monday.

THE COMMISSIONER: Yes, I think
it usually is the best thing.

MR. GOUDGE: That's the way I
feel, sir.

THE COMMISSIONER: Well, OK.
Well 9:30 Monday then.

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Mcakenzie Valley Pipeline
Inquiry

~~FEB 17 1976~~ AE Gray

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MACKENZIE VALLEY PIPELINE INQUIRY

Government
Publications

IN THE MATTER OF APPLICATIONS BY EACH OF
(a) CANADIAN ARCTIC GAS PIPELINE LIMITED FOR A
RIGHT-OF-WAY THAT MIGHT BE GRANTED ACROSS
CROWN LANDS WITHIN THE YUKON TERRITORY AND
(b) FOOTHILLS PIPE LINES LTD. FOR A RIGHT-OF-WAY
THAT MIGHT BE GRANTED ACROSS CROWN LANDS
WITHIN THE NORTHWEST TERRITORIES,
FOR THE PURPOSE OF A PROPOSED MACKENZIE VALLEY PIPELINE
and

IN THE MATTER OF THE SOCIAL, ENVIRONMENTAL AND
ECONOMIC IMPACT REGIONALLY OF THE CONSTRUCTION,
OPERATION AND SUBSEQUENT ABANDONMENT OF THE ABOVE
PROPOSED PIPELINE

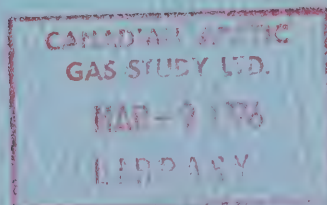
(Before the Honourable Mr. Justice Berger, Commissioner)

Inuvik, N.W.T.

January 26, 1976.

PROCEEDINGS AT INQUIRY

Volume 117



APPEARANCES:

Mr. Ian G. Scott, Q.C.,
Mr. Stephen T. Goudge,
Mr. Alick Ryder and
Mr. Ian Roland for Mackenzie Valley Pipeline
Inquiry;

Mr. Pierre Genest, Q.C.,
Mr. Jack Marshall, and
Mr. Darryl Carter for Canadian Arctic Gas
Pipeline Limited;
Mr. Reginald Gibbs, Q.C.,
Mr. Alan Hollingworth &
Mr. John W. Lutes, for Foothills Pipe Lines Ltd.;

Mr. Russell Anthony &
Pro. Alastair Lucas for Canadian Arctic Resources
Committee;

Mr. Glen W. Bell and
Mr. Gerry Sutton, for Northwest Territories
Indian Brotherhood, and
Metis Association of the
Northwest Territories;

Mr. John Bayly
or
Miss Leslie Lane for Inuit Tapirisat of Canada,
and The Committee for
Original Peoples Entitle-
ment;

Mr. Ron Veale and
Mr. Allen Lueck for The Council for the Yukon
Indians;

Mr. Carson H. Templeton, for Environment Protection
Board;

Mr. David Reesor for Northwest Territories
Association of Municipal-
ities;

Mr. Murray Sigler for Northwest Territories
Chamber of Commerce.

Mr. John Ballem, Q.C., for Producer Companys;

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Inuvik, N.W.T.

January 26, 1976

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

THE COMMISSIONER: We will come to order, ladies and gentlemen and I first of all, would like to say how much I appreciated and I am sure I speak for all of you who came, the hospitality that Gulf extended to us yesterday and how much we all appreciated the opportunity to visit the Gulf's installation at Swimming Point and the Challenger rig and I should say for the record that Dr. Fyles and Mr. Goudge and I were given a chance to see a snow road in action and that's very helpful to us.

So I think we are ready for Mr. Goudge to cross-examine this panel. Is that correct?

MR. BALLEM: I have some filing I would like to do. We might get that cleaned up because I have a lot of material here in front of me.

THE COMMISSIONER: Fine.

MR. BALLEM: We did undertake to file the whale studies that have been carried out and I would like to file then the White Whale Study. There is one dated February, 1974. There is an Environmental Impact Assessment, Immerk Artificial Island, January, 1973 which also does include the whale material and then in March of '75 there is a series of three reports which does include the whale material and those are entitled Summer Environmental Programs, Mackenzie River Estuary and there are three volumes. Volume I is aquatic studies, Volume II is terrestrial studies

1
2 and Volume III is White Whale Study. I might add that
3 these reports are all available apparently in the
4 library of the Research Council but we did think they
5 would be useful to the Commission on the question of
6 the whale and studies.

7 Then we also were
8 asked to file a list of materials for the oil spill
9 cleanup equipment and we have that list and I am
10 prepared to file that now and also Mr. Commissioner,
11 Imperial Oil thought they have a model in which their
12 contingency plans are based and although we have not
13 been asked for this we did think it might be useful
14 because of the extreme concern with this that this
15 model be filed with the Commission. Other people might
16 find it helpful. In fact, we would hope that they
17 would find it helpful so although again it is a volunteer
18 thing, I think it would be useful to be filed and I
19 would propose to do so.

20 THE COMMISSIONER: Thank you
21 very much, Mr. Ballem.

22 (SUMMER ENVIRONMENTAL PROGRAM, MACKENZIE RIVER
23 ESTUARY, VOLUME I -- AQUATIC STUDIES, VOLUME II --
24 TERRESTRIAL STUDIES, VOLUME III -- WHITE WHALE STUDIES,
25 APRIL, 1975, MARKED AS EXHIBIT NO. 431)

26 (WHITE WHALE STUDY, HERSCHEL ISLAND, CAPE
27 DALHOUSIE COASTAL REGION OF THE BEAUFORT SEA, FEB., 1974,
28 MARKED AS EXHIBIT NO. 432)

29 (ENVIRONMENTAL IMPACT ASSESSMENT, IMMERK ARTIFICIAL
30 ISLAND CONSTRUCTION MACKENZIE BAY, N.W.T., VOL. II

Wopnford, Webb, Rempel,
Appleton

1 ENVIRONMENTAL STUDIES, JANUARY, 1973, MARKED AS
2 EXHIBIT NO. 433)

3 (OIL SPILL EQUIPMENT INVENTORY, MARKED AS
4 EXHIBIT NO. 434)

5 (THE REGION MAJOR OIL SPILL RESPONSE TEAM OF
6 IMPERIAL OIL LIMITED, 1975, MARKED AS EXHIBIT NO. 435)

7
8 GORDON ROBERT APPLETON,
9 GERHARD REMPEL,
10 ROBERT WEBB,
11 MAX EUGENE WOPNFORD, resumed:

12 THE COMMISSIONER: Before you
13 begin, Mr. Goudge, maybe I could just say this, Mr.
14 Webb, when we adjourned on Saturday afternoon, you
15 spoke to me thinking I might have misunderstood your
16 testimony and you were explaining that the ice
17 conditions that may keep the whales from coming
18 into the Mackenzie Estuary. Perhaps you could just
19 repeat what you just told me so that it is on the
20 record.

21 WITNESS WEBB: A Yes, Mr.
22 Commissioner, I had feared that perhaps you had
23 thought that my comments indicated that Shallow Bay
24 itself was blocked with ice and that for some years and
25 that this prevented ingress by the whales. That isn't
26 the case. Shallow Bay clears of ice fairly quickly.

27 The problem is a
28 band, a half circle or semi-circle band of ice somewhat
29 offshore that exists between the warm waters of the
30 Mackenzie which open up the mouths of the rivers quite
31 early and the offshore leads which opens between the
32 land fast ice and the polar cut. If my memory serves

Wopnford, Webb, Rempel,
Appleton
Cross-Exam by Bayly

1 me right, in two years out of the four that we made
2 observations, this semi-circle ice immediately offshore
3 the Delta did not open up in late June as it, I think,
4 normally does perhaps but was a little bit later to
5 open and therefore the whales were later coming into
6 the warmer waters of the Mackenzie Delta.

7 THE COMMISSIONER: And it is when
8 that lead opens up that determines when they enter the
9 delta and not the presence of ice in the delta estuary
10 itself. That ice is gone long before.

11 A That is generally correct.
12 There are some areas that open up slightly earlier than
13 others. I think it is a function of the amount of flow.
14 The larger channels open up earlier.

15 MR. GOUDGE: Before I begin, sir,
16 I wonder if Mr. Ballem might tell us whether he has the
17 model he spoke of to file now. I didn't catch that.

18 MR. BALLEM: Yes, I did file it,
19 Mr. Goudge.

20 MR. GOUDGE: The second thing is
21 not unexpectedly, sir, Mr. Bayly has one or two more
22 questions that he wishes to pose and I would be glad
23 to have him pose them now.

24 CROSS-EXAMINATION BY MR. BAYLY (CONTINUED):

25 O Mr. Commissioner, I didn't
26 think these up over the weekend. These are questions
27 that I found when I was going through my notes that I
28 had omitted to ask. We could start with you, Mr.
29 Appleton. I had expressed a concern that was deferred
30 to this panel with regard to overwintering coney at

1 Big Horn Point where it is --

2 WITNESS APPLETON: That will be
3 a Shell question or an Imperial question.

4 Q I am sorry, an Imperial
5 question. At Big Horn Point where it is contemplated
6 that Imperial would be possibly withdrawing 400,000
7 cubic yards of sand. Now, Mr. Rempel, are you acquainted
8 with this area and have you assessed the overwintering
9 of coney --

10 WITNESS REMPEL: I would ask
11 Bob Webb to answer the questions on the fish because he
12 has looked into that particular area, the work that
13 we have done.

14 Q Mr. Webb?

15 WITNESS WEBB: A An environmental
16 study took place in 1975 in the Big Horn Point area on
17 Harry Channel and fish samples were taken. To my
18 knowledge there has been no winter work done to date on
19 Harry Channel. The study report is not available as
20 yet. However, I believe they have found a substantial
21 fall run of cisco coming upstream to Harry Channel in
22 September.

23 Q So you would want to avoid
24 any sand removal during that run and you would want to
25 assess this spot as an overwintering for any species of
26 fish prior to making your recommendations as to whether
27 there would be damage to any populations from the
28 removal of this sand.

29 A I think in general it is
30 advisable to avoid excessive turbidities and the

Appleton, Rempel, Webb,
Wopnford
Cross-Exam by Bayly

1 stirring of sediments at the time that the river waters
2 are relatively clearly which would be the fall and winter
3 period.

4 Q And for the overwintering,
5 you may want to assess this as a possible loss of
6 habitat if sufficient quantities are withdrawn.

7 A That's possible but I would
8 point out that I think that the reason a lot of over-
9 wintering material is not being gathered by any research
10 agency is the difficulty of gill netting and testing for
11 the presence of adult fish under ice. The conventional
12 gill netting methods just fail completely.

13 However, I think in general
14 I would agree with your point.

15 Q And are there plans that
16 you know of or perhaps that Mr. Rempel knows of to do
17 an assessment of overwintering fish at this location
18 prior to formally applying to withdraw sand from Big Horn
19 Point?

20 WITNESS REMPEL: We certainly
21 intend to carry out further assessments if indeed the
22 Big Horn project looks feasible and we go ahead. I have
23 heard that in talking to the construction people that
24 it appears the best time to do the dredging work, if in
25 fact they do it, would be early July, when it is fairly
26 turbid in that area, as you know.

27 Q And if you were going to do
28 any winter work, I would assume that you have no plans
29 to do it during the winter of 1975, '76. It would not
30 begin until next winter.

Appleton, Rempel, Webb,
Wopnford
Cross-Exam by Bayly

1 A Not unless it had to do with;
2 some of the sort of site investigations and assessments
3 that we have just been talking about.

4 Q Moving to another area and
5 Mr. Wopnford, this may be for you. The plans appear to
6 be to transport personnel between Camp Farewell and
7 the project site by helicopter during all seasons.
8 That is, unless they are brought in, I suppose by
9 water. Do you see the possibility of regulations
10 being imposed that would restrict flights into the
11 sanctuary and cause you difficulty in bringing
12 personnel in at different times of the year particularly
13 nesting?

14 WITNESS WOPNFORD: A We already
15 have some of those restrictions, Mr. Bayly. They
16 concern the altitude at which we fly and the track that
17 the helicopter follows. We wouldn't anticipate more
18 than two trips a day in any event during the operation.

19 Q These would be trips into
20 the sanctuary, of course?

21 A Yes.

22 Q Now, with regard to the
23 sanctuary and this may be a general question. We heard
24 from Dr. Bliss that in his opinion there might have
25 been some reason to change the shape of the sanctuary
26 if one were to have it to do again. That is, by making
27 it extend eastward along the coast and for shortening
28 the southern portion of it. Can you comment as to
29 whether that southern portion is of value as in that
30 it creates a buffer zone between the concentrated areas

Appleton, Rempel, Webb,
Wopnford
Cross-Exam by Bayly

1 used by the birds and areas of general unrestricted
2 activity.

3 A Perhaps I could defer that
4 to Mr. Webb.

5 WITNESS WEBB: A The question
6 was, Mr. Bayly, a value as a buffer zone?

7 Q Yes.

8 A Yes, I think that is a
9 reasonable contention but I would suggest that it
10 could in fact also act as a buffer zone with controlled
11 activity, industrial activity and others within it and
12 still perform that function. However, I would add that
13 I believe you have had testimony from other consultants
14 that the range at which even the most wary bird species
15 are disturbed by aircraft activity and others is well,
16 for some species, relatively great, it is limited and
17 the distances between the proposed facilities and the
18 most critical staging areas for snow geese, for example,
19 are, we believe, beyond that range of disturbance.

20 Q Now, would you be undertaking
21 for the three producers an assessment of the Kendall
22 Island Bird Sanctuary with the purpose of making
23 recommendations about areas that they should not go into
24 at all with any industrial activity?

25 A We have assessed the proposed
26 locations and our studies have been filed with this
27 Inquiry and to our knowledge none of those sites
28 occur within the most critical bird areas. And no
29 activity is planned of a specific nature that we can
30 find in these most critical areas which are essentially

Appleton, Rempel, Webb,
Wopnford
Cross-Exam by Bayly

the coastal fringe of the sanctuary itself.

Q There is exploratory work
going on in some ^{other} areas of the sanctuary though as I
understand. Is that correct?

A That's true. I was referring
to the production facilities.

Q Yes, so it is not incon-
ceivable that there might be an application to produce
in other areas of the sanctuary?

A I would agree it is
conceivable.

Q And a concern that you might
express to the companies would be that some lines should
be drawn at least for some seasons to ensure that those
critical areas are protected. We don't want to put
a line at the most southerly nest and say you must not
go beyond this for example.

A Perhaps not a line, Mr.
Bayly, but certainly very ^{close} scrutiny of the specific
activities that are proposed and certainly I would
suggest in the nesting season and perhaps in the fall
staging season, some stipulations on those activities.

Q And you appreciate the
difficulty in these coastal areas of restricting
flights to certain altitudes and to certain corridors
because of weather and fog conditions?

A Yes, most certainly, I do.

Q Those are all the questions
I have. Thank you very much.

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 CROSS-EXAMINATION BY MR. GOUDGE:

2 Q Mr. Rempel, might I begin
3 by asking you a general question? The evidence that you
4 filed in chief refers on page 3 to some examples, as
5 you put it, of the assessments that have been made by
6 your people and by your consultants of the impacts of
7 the projects proposed. I can read that, I take it, as
8 referring to the major impacts that you people have
9 formed opinions about. Is that correct? These are
10 not just examples but your view as to the major impacts.

11 WITNESS REMPEL: They certainly
12 were examples and we had intended that they cover a
13 fairly broad spectrum of impacts. In view of the nature
14 of the subsequent land tenure applications to which
15 some of which were actually put in after this document
16 was written, we certainly can't guarantee that, Mr.
17 Goudge but we did expect that they would cover the major
18 impacts in that sense.

19 Q Yes, you have no views --
20 you have discovered no major impacts that you haven't
21 told us about in your prepared evidence?

22 A Well, the major impacts are
23 in the documents that were filed somewhat over a year
24 ago and if we have left any out that you think were
25 major perhaps that could be true.

26 Q Let me ask Mr. Appleton in
27 particular as a result of our trip yesterday one or two
28 questions about snowroads. Mr. Appleton, there is no
29 doubt, I understand it, that Gulf has multiyear use
30 experience with snowroads in the Delta?

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

WITNESS APPLETON: A Yes.

Q And in particular with
the snowroad which runs from Swimming Point to Parsons
Lake?

A Yes.

Q In your view, is that the
location in the Delta where there is the most experience
with multiple road use -- multiple year use of snowroads?

A I believe that is true. The
other road that has probably had nearly equivalent of
the usage that the Lucas Point to Parsons Lake area
would be the road before from Inuvik up to the Parsons
Lake area. We had a road at that time -- at that time,
many people used it, not only us, but once we
developed our base camp at Swimming Point we stopped
coming out of Inuvik.

Q The road from Inuvik to
Parsons Lake was a snowroad as opposed to a river road
if I can make that distinction.

A Yes.

Q And how many years was that
used?

A I believe two and a half to
three.

Q And the Parsons to Swimming
Point-Parsons Lake road is now in its fourth winter?

A That is right.

Q Now, this is a question
perhaps addressed to Mr. Ballem but to you directly.
We have asked you if you could be good enough to provide
us with any information you have as to certain kinds of

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 dates, start-up dates. By that, I mean the dates which,
2 on which you have begun to construct the road over the
3 past four years and in addition the date on which you
4 have begun to use the roads and finally the date over
5 the past four years on which you have had to cease
6 using the road? Is it possible for you to provide us
7 with that data?

8 A Yes, I believe so.

9 Q What about the road running
10 from Inuvik to Parsons Lake? Is there any similar data
11 kept on that road?

12 A I could certainly check and
13 give you anything that we have available.

14 Q Now, moving to the vegetation
15 problem which results from multiple year use, has Gulf
16 or anyone else to your knowledge done any studies of
17 the progressive damage, if any, to vegetation from
18 multiple year use of the snowroad?

19 A On the Inuvik to Parsons
20 Lake road, under the A.L.U.R. Program, the Arctic Land
21 Use Research Program, Dr. John Lambert and Dr. Dennis
22 Kerfoot did a report and submitted a report and I
23 believe that is on file with the government on the,
24 on both roads actually, Dr. Larry Bliss has looked at
25 our road and commented in generally favourable aspects
26 on it and has made no recommendations to stop using the
27 same route every year.

28 Q I take it though he has
29 undertaken no formal or official report in connection
30 with data on vegetation damage over multiple year use.

Appleton, Rempel, Webb, Wopnford,
Cross-Exam by Goudge

1 A Not a formal report, no.

2 Q What is your opinion on
3 vegetation damage due to multiple year use?

4 A Based on from our experience
5 and from what I have seen in both summer and the winter
6 activities I believe it is quite feasible and it does
7 no serious damage to the ecology.

8 Q Is there any more damage in
9 your view caused by a second year of use than by a
10 first of year use only?

11 A No, I believe what you get
12 after your initial use is that probably you would get
13 a flattening of the tundra but you don't get any
14 vegetation kill-off in particular. You may retard the
15 vegetation slightly at the first of the year but the
16 vegetation isn't destroyed or killed.

17 Q Do you know how that opinion
18 compares with any opinion Dr. Kerfoot might have formed
19 on the Inuvik to Parsons Lake road?

20 A I think it is generally the
21 same. I might just point out, on the Inuvik to Parsons
22 Lake road we as a company probably had several problems
23 related to winter roads and I think the worst time of
24 the year for any winter roads is in the spring time.
25 And we have gained a lot of knowledge as you
26 probably understand during the past four years of
27 building these roads but when we first built them
28 that Parsons to Inuvik road in the spring time a lot
29 of the seismic crews would be heading down back to
30 Inuvik and they would be getting on the road and at

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 that time things would be a little soft and in some
2 cases they left actually a little too late and a
3 little more tearing was done than is accepted on our
4 road at the present time.

5 Q I take it what you are telling
6 me is that while the multiple year use may be a problem,
7 too long use in the spring is a worse problem?

8 A That is correct.

9 Q I wonder, Mr. Rempel, if
10 Imperial has any experience with multiple year use of
11 snowroads?

12 WITNESS REMPEL: A Some
13 years ago, we had Dr. Bliss, I believe it was, looked
14 at some multiple use roads in the area of Tuktoyaktuk
15 and north. I think there, as I recall, the recommendation
16 was that we could use a road of that nature for more
17 than one year. However, I think it was left a bit
18 open-ended as to how many years.

19 Q Is there a report that
20 recites that conclusion?

21 A I am not sure. I can
22 certainly check and if we have one I could make it
23 available.

24 Q Fine, Mr. Wopnford? What
25 about Shell?

26 WITNESS WOPNFORD: A No,
27 we haven't been in that position. We have used the
28 ice almost entirely. We have, you know, short roads
29 of several hundred yards, for instance, the one that
30 goes up to the stockpile at Farewell from the ice

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 channel. That has been, we have had gravel up and
2 down that hill so it really isn't a snowroad and that
3 is the only place that we have had multiple use.

4 Q Yes, sir. Moving back to
5 you, Mr. Appleton, you spoke in answer to Mr. Bayly's
6 questions on Friday a little about your views concerning
7 reindeer overwintering on Parsons Lake. We heard from
8 Dr. Bliss that there is a certain kind of interaction
9 between reindeer overwintering and drilling activity.
10 Could you give me your views as to whether that inter-
11 action presents any potential threat to the
12 reindeer population?

13 WITNESS APPLETON: A I
14 believe I indicated on Friday that from our past
15 experience the reindeer do not seem to be disturbed
16 by any of our activity whether it is a drilling
17 activity or the logistical activity or supplying the
18 rig when the herd is around. The herd seems to
19 graze quite nearby the rigs within maybe less than
20 half a mile in many cases or closer and on the roads
21 they have been seen on both sides of the road with
22 our vehicles passing between them so there seems to
23 be no physical evidence of any harm or any disturbance
24 to these animals.

25 Q I take it though, you
26 have conducted no studies of the interaction between
27 the reindeer overwintering patterns and your own
28 activities?

29 A No and I just might add that
30 while the reindeer have been in the Parsons Lake area

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 for several winters, it's only been the last two
2 winters that they have actually been herded fairly
3 close to our activity.
4

5 Q Do you have any plans in
6 the future to conduct any studies concerning that
7 inter-relationship?

8 A I imagine we will do some
9 looking into that as part of our site-specific
10 environmental program.

11 Q Mr. Rempel, on page 9 of
12 your canned evidence, you refer to the potential danger
13 of over-exploitation of fishing possibly in Yaya Lake.
14 And you conclude that that possibility exists unless
15 control by regulatory measures is imposed. I wonder
16 if you have given any thought to what kind of regulatory
17 measure might be most efficient given, I suppose, that
18 it might be necessary to control some of the employees
19 of the companies that you represent?

20 WITNESS REMPEL: A We have
21 certainly discussed that matter with our consultants
22 and perhaps I could ask Bob Webb to give you an answer
23 to that.

24 Q Mr. Webb?

25 WITNESS WEBB: A Yes, the
26 problem or potential problem as we see it is the
27 over-exploitation of the larger and older lake trout.
28 These are not well-represented at any lake trout popula-
29 tion. The rate of growth of lake trout in Northern lakes
30 is quite slow and these larger lake trout and I am
31 talking of something over 10 and 15 pounds are often so

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 old that it is very, very difficult if not impossible
2 to gauge their age from reading the conventional aging
3 method, reading the annular rings on their scale.

4 We have suggested that, or
5 have discussed with the developers the possibility of
6 encouraging government or discussing with government
7 such regulations as fishing with barbless hooks,
8 perhaps reducing the limit of fish that can be or even
9 eliminating totally the taking of large lake trout from
10 Yaya and perhaps other lakes.

11 I personally don't feel that
12 it is necessary to prohibit recreational fishing, but the
13 kind of fishing, the fishing could take place in a very
14 controlled manner perhaps causing the release back into
15 the lakes of these fish would be one way of having this
16 sport and preserving these older age classes.

17 Q Do you know whether any such
18 discussions have in fact taken place with the government?

19 A I am not aware of any that
20 have taken place formally with regulatory --

21 Q In your view, moving in that
22 direction is desirable?

23 A Yes.

24 Q Now again, this may be a
25 question for Mr. Webb, but I will begin with Mr. Rempel.
26 Let me quote to you, Mr. Rempel, a short passage from
27 the Environmental Statement of Arctic Gas's supplement
28 to application relative to the alternative routing
29 across the Mackenzie Delta. At page 27 of that
30 document, it says,

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 "The Mackenzie Delta is probably the most
2 important fishery area along the entire
3 pipeline route. This utilization of the
4 area is extensive. The delta serves as a
5 spawning, rearing and overwintering area
6 and also as a migratory pathway for many
7 fish species."

8
9 Pausing there, would
10 you have any disagreement with that opinion?

11 WITNESS REMPEL: A Well
12 certainly, that is what we have heard from the experts
13 and I would ask Bob Webb to comment on it as well.

14 WITNESS WEBB: I have no disagree-
15 ment with the general statement. I would point out that
16 our studies haven't found the channels as being
17 particularly important in spawning; that is, in the
18 outer delta but the statement in general would seem
19 to be --

20 Q But with that minor
21 exception you would agree with the other conclusions
22 from the passage I read?

23 A Yes, I would.

24 THE COMMISSIONER: Whose
25 statement was that, sir?

26 MR. GOUDGE: That is a statement,
27 sir, from the applicant, Arctic Gas's Environmental
28 Statement concerning their cross-delta alternative, it's a
29 document which I think has either been filed or will
30 be filed.

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

MR. MARSHALL: Sir, the document was circulated to participants. It hasn't yet been filed. I thought we would file it formally at the time we began to present evidence on the cross-delta. It has been made generally available.

MR. GOUDGE: In the public domain at any rate.

Mr. Rempel, given then that conclusion, does that not suggest to you the importance of obtaining as much information as you can concerning for example, spawning, rearing and overwintering patterns of fish in the Mackenzie Delta channel?

WITNESS REMPEL: A Yes, I think it would suggest that.

Q Yes, and I would include within that the lakes that connect to the Mackenzie Delta channel?

A I think I would agree with that, yes.

Q And to expand slightly on the site-specific questions that Mr. Bayly asked you this morning, would you agree as to the desirability of expanding your knowledge or are you satisfied that your knowledge is at present satisfactory?

A We are continually discussing that sort of thing with our environmental consultants and as a matter of fact, some of the work that was mentioned that we did last summer related to that same concern. Bob, would you like to add to that?

WITNESS WEBB: Yes, if I may.

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1 We feel that the existing body of knowledge is
2 adequate to reasonably predict the impact of those
3 features of a production development facility that had
4 been identified at this time.

5 Q I wonder, Mr. Webb, you
6 referred this morning, in answer to Mr. Bayly's
7 questions to further tests that you had done this
8 past summer in the Big Horn Point area. Did I under-
9 stand you correctly in that regard?

10 A Yes.

11 Q Did your studies in the
12 summer of 1975 go beyond that limited geographical
13 area?

14 A I don't believe there were
15 other fishery studies, no.

16 Q My concern about your
17 information base is very simple and I suppose quite
18 naive but for example in the Imperial document, the
19 large Imperial document at page 3-137, I take that
20 to mean that the information base, data base relating
21 to the channel referred to there, is really quite
22 limited. Three gill netting stations in the channel
23 were netted 8 times, a total of 800 feet of net in
24 July, August and September and a total of ~~ten~~ Arctic
25 Cisco, three broad white fish, one least cisco and
26 two long-nosed suckers were taken. If that is the kind
27 of information base that you are speaking of, it seems
28 a little thin to me. Am I misreading that?

29 WITNESS REMPEL: Well, of course,
30 this is, as you know, preliminary information. I also

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1 understand that the government has done some work in
2 this area which we don't have yet and we would certainly
3 want our consultants to assess that before we
4 launched on a further program of that nature.

5 Q If that is the extent of
6 your information base for that channel, Mr. Rempel,
7 wouldn't you also want more data obtained through your
8 own devices?

9 A If we, what I am suggesting
10 that we wouldn't want to duplicate work that had
11 already been done and that we would want to assess the
12 available work before we went along with some other
13 stuff of that type.

14 Q But if you put the importance
15 of the problem as I recited to you in the beginning
16 side by side with the relatively skimpy data base,
17 doesn't that yield a conclusion that more baseline
18 data research is needed?

19 A If we do in fact intend to
20 disrupt something in that channel, yes. That has not
21 been decided yet.

22 Q I wonder, Mr. Wopnford, given
23 that your people are also involved in development which
24 presumably will affect the Mackenzie Delta channels
25 and connecting lakes whether you have any plans for
26 expanding your data base in the fisheries area.

27 WITNESS WOPNFORD: I believe
28 our operations as we presently see them would not
29 particularly affect the fisheries or the channels there.
30 The, if for instance, we were to decide that we should

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1 further study the impact of a lateral across that
2 channel as shown in our evidence, we would certainly
3 want to make further studies on the impact that may
4 have.

5 Q Yes, now, Mr. Rempel, you
6 make some reference in your prepared evidence to
7 archaeology and I understand you correctly, I think
8 that your preliminary conclusion is that archaeology
9 need not be a vital consideration in your planning. Is
10 that so?

11 WITNESS REMPEL: That is correct.
12 On the specific Taglu location as we have it drawn on
13 the map now.

14 Q Do you have any plans at
15 all to have attached to your construction operation any
16 one versed in matters of archaeology to deal with on
17 site occurrences as they may arise?

18 A Well certainly not Taglu
19 other than our environmental officers as I mentioned
20 before because we would just be putting things on top
21 of the existing land form.

22 Q Mr. Appleton and Mr.
23 Wopnford, you plan to follow the same procedure?

24 WITNESS APPLETON: Yes, we have
25 had the archaeologists out last summer and when we get
26 more site-specific, we probably will bring him
27 directly to the site to review it and like Mr. Rempel
28 we will be above the ground so I wouldn't anticipate
29 a man being there all the time.

30 WITNESS WOPNFORD: Yes, it would

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1 be the same for us. There is an initial indication at
2 Nig that there isn't likely to be anything there.
3 However, after making the decision on the plant we
4 decided that we would have the archaeologist take another
5 look at it prior to our engineering work.

6 Q And you have committed
7 yourself to have that second archaeological look?

8 A We haven't hired anyone to
9 do it but we have discussed it and decided that we would
10 do it.

11 Q Yes, coming to the matter of
12 aircraft control, Mr. Rempel, you spoke in answer
13 to Mr. Bayly of some of the limitations that you foresee
14 on aircraft traffic related to your development. You
15 spoke initially of a flying height constraint which I
16 think in your material is 1500 feet. Is that correct?

17 WITNESS REMPEL: I don't recall
18 the exact number in the material but I have received
19 information from our people that are working on flights
20 and the numbers and so on that they would probably look
21 at 2,000 feet which seems to be a figure that we have
22 lived with for some of our operations at the present
23 time during certain critical periods that we could in
24 fact go to that 2,000 feet.

25 Q As a practical matter then,
26 you are telling me your experience has been to observe
27 a 2,000 foot minimum height constraint.

28 A The 2,000 foot altitude is
29 one that we have taken for some of the work, for instance,
30 on the artificial islands during certain critical periods.

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1 Q Yes and that is the one
2 that is in common use today for development and flying
3 in the delta?

4 A I am not sure it is a common
5 one. I believe the more common one is the 1500 foot
6 altitude.

7 Q But Imperial's pilots use
8 the 2,000 foot constraint?

9 A No, I say they use it under
10 certain conditions, yes, but not at all times.

11 Q Do you know what those
12 certain conditions are that encourage you to use the
13 2,000-foot --

14 A Yes, stipulations in the
15 Land Use Regulations, for one for specific activity and
16 it has changed over the last two years, I believe,
17 where formerly it was invariably 1500 feet minimum, it
18 has now been changed on some activities to 2,000 feet
19 which we expect to maintain for this particular operation.

20 Q So whether it is 1500 feet
21 at certain times of the year or 2,000 feet at other
22 times of the year, you get those figures from the Land
23 Use Regulations that you work under.

24 A Yes, for specific activity.

25 Q They are not self-imposed
26 constraints?

27 A Not necessarily, no.

28 Q Given that you work under
29 them as a matter of experience, Mr. Rempel, can you
30 make any comment on how they are enforced? Can you
describe to me how they are enforced?

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1 A As far as our own operations
2 is concerned, I believe we have full confidence in our
3 pilots, the pilots that they will maintain whatever
4 altitudes have been required.

5 Q Can you tell me anything
6 about the methods that may be used by government to
7 ensure adherence to that level of flying?

8 A You mean, do I know of any specific
9 activity by government that has addressed itself to
10 that?

11 Q Yes, I am really asking for
12 my own information, given that there is a 2,000 foot
13 height limit, how is it enforced by government. I
14 understand that you have confidence in your pilots
15 obeying the rules.

16 A Yes.

17 Q How does the enforcer ensure
18 that the rules are being obeyed? Do you know?

19 A I am not sure how he could
20 ensure that at all times unless he is in the aircraft.

21 Q Do either Messrs. Appleton
22 or Wopnford know how it is done in practice?

23 WITNESS WOPNFORD: I don't believe
24 without putting some radar out there or something like
25 it, I don't know of a practical method of --

26 Q It is a tough thing to do
27 I suppose.

28 A Yes, it is very difficult.

29 THE COMMISSIONER: It is impossible
30 in any practical sense, isn't it?

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 A That's right.

2 Q Do you know of any instance
3 where there has been allegations of an infraction of
4 that regulation that you have been working under?

5 WITNESS REMPEL: Do you mean in
6 our operation?

7 Q Yes, sir.

8 A I am not aware of any that
9 I can think of specifically at this time.

10 Q Mr. Appleton?

11 WITNESS APPLETON: None that I
12 know of, no.

13 Q Mr. Wopnford?

14 WITNESS WOPNFORD: I don't recall
15 us having received any kind of --

16 Q You look quizzical. Is there
17 a possibility?

18 A I suppose there is. I guess
19 I don't see everything that goes on.

20 Q Right.

21 A I don't know of any.

22 WITNESS APPLETON: I think perhaps
23 you know, while there may have been no infractions
24 there have been times when companies may have been
25 below the 2,000-1500 foot level depending on weather
26 conditions at that certain period.

27 Q Now, Mr. Rempel, one of the
28 other devices that you referred to in your material to
29 control aircraft impact, if I can call it that is the
30 use of flight corridors. Is that correct?

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Cross-Exam by Goudge

1 WITNESS REMPEL: That is correct.

2 Q Yes, is that a constraint
3 that you are working under at present?

4 A In some of the stipulations
5 attached to land use regulations, yes.

6 Q How are the corridors defined?
7 Are they set out as a geographical strip from point to
8 point?

9 A No, for instance, they might
10 request that we not fly over the Kendall Island Bird
11 Sanctuary prior to summer operations.

12 Q That is an area of prohibited
13 flying. When I think of a corridor, I think of a
14 designated flight path from point to point. Is that
15 what you mean when you say flight pathway?

16 A Well, in the Taglu, we would
17 take that approach although we haven't done that thing,
18 that sort of a thing, we haven't taken that approach
19 at our present operations.

20 Q You would contemplate though
21 that as the Taglu program developed that constraint
22 would be one you would be working under?

23 A Yes. Yes, that we would
24 when we started from Inuvik for instance, we would
25 probably fly over Bar "C" and directly to the strip
26 and depending again on the wind conditions we would land
27 either from the, well either end of course and our
28 impact would be mainly at either end and would be some-
29 what less on the side.

30 Q Yes. But the use of the

Appleton, REmpel, Webb, Wopnford
Cross-Exam by Goudge

1 flight pathway as an impact modifier so to speak is not
2 something that is in present practice as far as you
3 know.

4 A Well, normally, I think they
5 just take the straightest lines between two points and
6 with the restriction, of course, of altitude and
7 other geographical restrictions that may exist.

8 Q Mr. Wopnford, do you know
9 whether flight pathways, designated flight pathways,
10 are in present use as impact modifiers?

11 WITNESS WOPNFORD: On a seasonal
12 basis, we have been required to fly for instance out
13 of Farewell along the specific channel at a specific
14 altitude. There has been some discussion with the
15 biologists. While we have maintained the 1500 foot
16 level in one particular instance, they asked us to
17 fly over the channel at a much lower altitude to
18 attempt to, they felt that it may have less impact.

19 Q So you have had experience
20 with being required to use designated flight pathways.

21 A That is correct, yes.

22 Q And that requirement is put
23 on you, I take it, as part of the land use program that
24 you are subject to?

25 A That is correct.

26 Q Once again, do you know of
27 any effective method of enforcing that as a constraint?

28 A Well, that would be somewhat
29 easier than the altitude in terms of having an observer
30 there. So if it is a well-defined path and they're going

Appleton, Rempel, Webb, Wopnford
Cross-Exam by Goudge

1 away from that path, you could tell it from the ground
2 just by visual --

3 Q On a clear day.

4 A On a clear day, yes.

5 Q No infractions that you know
6 of, of that particular kind of constraint have occurred
7 in the past?

8 A No, I don't recall any.

9 Q Mr. Appleton, what about
10 you? Has Gulf worked under that kind of practical
11 constraint?

12 WITNESS APPLETON: No, we haven't.

13 Q You have had no experience
14 with that?

15 A We have had none.

16 Q Do you have any comment on
17 the efficacy of that kind of constraint? Is it a
18 workable constraint?

19 A I believe it is workable.

20 As you are probably also aware, the charter companies
21 in particular have to fly with the M.O.T. flight
22 path such as Inuvik from Swimming Point which they are
23 supposed to maintain that path everytime they go either
24 way. So I don't anticipate any problems with it.

25 Q I take it, Mr. Rempel, when
26 in your prepared evidence, you referred a designated
27 flight pathways as a potential impact modifier, you
28 contemplate that constraint being used for flying
29 everywhere in the delta, not simply from the supply
30 depot to a work site?

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Cross-Exam by Goudge

1
2 WITNESS REMPEL: That particular
3 reference was to that specific activity at Taglu
4 and associated work.

5 Q But you would contemplate
6 it also being used for flying, for example, from
7 Inuvik to Swimming Point or Inuvik to Bar "C"?

8 A Well certainly, I didn't
9 have any other activity in mind at the time when it
10 was put down in that particular, for that particular
11 activity at Taglu.

12 Q Well, sir, I take it you have
13 done --

14 THE COMMISSIONER: Excuse me,
15 Mr. Wopnford wanted to answer that.

16 MR. GOUDGE: I am sorry, thank you.

17 WITNESS WOPNFORD: I wonder if
18 you would give us some time to check this out. It seems
19 to me now that I think about it that the M.O.T. has
20 presently some flight paths laid out for those traffic
21 areas. For instance, as Gord mentioned, from Swimming
22 Point to Inuvik and it seems to me that the same thing
23 applies to Tununuk or Bar "C" and Inuvik. I would like
24 to check that with the air crew and see if, in fact,
25 I know they have, certainly have some altitude
26 restrictions in terms of north and south traffic such
27 as they have --

28 Q Well, I would be interested
29 in your response to that, Mr. Wopnford. My concern
30 as you can see, is that I am interested in

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Cross-Exam by Goudge

1 knowing whether there is any experience with this
2 kind of constraint and if so, how efficiently that
3 constraint can be applied.

4 A Yes, on these flights,
5 of course, a good number of them are under instrument
6 flight rules and so you would have certainly altitude
7 requirements.

8 Q No doubt you have operated
9 under altitude constraints. My concern now though has
10 moved to designated flight pathway constraints.

11 A Well, that, of course, is
12 pretty universal any place you fly.

13 Q Not for environmental
14 reasons.

15 A No, not necessarily, no.

16 Q Well, if you, perhaps I
17 could ask you to inquire and if you do have further
18 information, perhaps Mr. Ballem would be good enough
19 to supply it to us.

20 A Yes.

21 Q Well, Mr. Rempel, moving
22 to the Bird Sanctuary, the Kendall Island Bird Sanctuary
23 that again, Mr. Bayly referred to with you this morning,
24 no doubt that Imperial and Shell are operating in what
25 is at least for the moment the southern part of that
26 sanctuary, am I correct in that?

27 WITNESS REMPEL: That is right, yes.

28 Q And I take it you have been
29 conducting all your normal development activities within
30 that sanctuary over the past number of years.

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Cross-Exam by Goudge

1 A That is correct, yes.

2 Q I am interested in knowing
3 whether in conducting those activities you have been
4 subject to any particular regulations or constraints
5 that relate to the fact that you are in the bird sanc-
6 tuary?

7 A Well, except for this
8 altitude and other, that was mentioned earlier, I would
9 have to go back to the stipulations in the land use
10 regulations of the various activities and confirm --

11 Q Any constraints that exist
12 are in your land use permit?

13 A Yes.

14 Q You have no special constraint
15 placed on you separately by, for example, the Canadian
16 Wildlife Service?

17 A Well, certainly the Canadian
18 Wildlife Service provides you with a separate permit
19 when you are working in the bird sanctuary, and would
20 in fact include some restrictions in there.

21 Q Well in that separate permit
22 would there not be separate constraints that arise
23 solely from the fact that you are operating within the
24 sanctuary?

25 A I believe they are also
26 incorporated within the land use stipulation.

27 Q So they are attached to your
28 land use -- ?

29 A Yes, I would have to double
30 check that specific attachment.

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1 Q Can you give me an example
2 of the kind of restraint that might be imposed or
3 has been imposed in practice on you by the C.W.S.
4 because of your sanctuary operation?

5 A Well, I think I mentioned
6 one and that was in operations further out in the delta
7 they request that we not fly over the sanctuary. Others
8 I would have to again check on the various permits
9 and stipulations.

10 Q If you have an example, sir,
11 of a permit that has been issued which has the C.W.S.
12 attachment relating to specific in-sanctuary activity,
13 I would be grateful if you could supply it to us as an
14 example of a kind of specialized regulation.

15 A I don't have one with me but
16 I could certainly check it out and --

17 Q Mr. Wopnford, do you have any
18 comment on that insofar as Shell is as well operating
19 within the sanctuary?

20 WITNESS WOPNFORD: Yes, we have
21 had the restraint, we move our rigs by helicopter in the
22 summertime or maybe a combination of barge and helicopter
23 and we had been required to shut down rigs during a
24 certain period when we are ready to move, due to the
25 heavy helicopter traffic that is caused by a rig move
26 so we have had to postpone our operations, if you like,
27 over some critical periods.

28 Q Yes.

29 A On one or two occasions.

30 Q And this is a result of a

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Cross-Exam by Goudge

1 specific C.W.S. constraint applied to you due to your
2 operating in the sanctuary?

3 A That is correct.

4 Q Again, sir, if you can
5 supply us with an example of a permit showing that kind
6 of constraint, I would be grateful.

7 A Yes, I am trying to think.
8 I think in this case, the permit simply wasn't issued.

9 Q I see.

10 A I will check on that.

11 Q An example of a non-permit,
12 I take it.

13 A A non-permit.

14 Q Mr. Rempel, on page 7 of your
15 prepared evidence and this has been touched on several
16 times before so I will be brief. You referred to your
17 conclusion that the snow goose nesting colony south
18 of Kendall Island is located sufficiently far from both
19 the Imperial and Shell plants to be well outside the
20 range of disturbance by gas plants sound emission.
21 Now, I take it, you are referring there to normal gas
22 plant sound emissions or are you referring to the entire
23 range of gas plant sound emissions that may occur over
24 the course of operations?

25 WITNESS REMPEL: We had Slaney
26 and Co. look at some of that. I will have Bob Webb
27 answer it.

28 WITNESS WEBB: Yes, that is
29 essentially the substance of our advice to the companies
30 involved and it includes the possibility of periodic

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1 but infrequent emissions of sounds other than normal
2 sounds from the gas plants.

3 Q There is no doubt that there
4 are periodic peaks on the curve of sound, so to speak,
5 when there is flaring or specific kinds of testing and
6 so on.

7 A Yes, right.

8 Q And does your opinion take
9 into account those peaks on the sound curve?

10 A Yes, it does, we feel that
11 those peaks will be in the general order of magnitude of
12 peaks occurring from testing exploration wells which
13 in fact, now goes on and has gone on inside the
14 sanctuary for a number of years.

15 Q Mr. Webb, have you done any
16 specific testing relating to these exceptionally loud
17 sounds and the distance that you are speaking of in the
18 prepared evidence?

19 A No testing, per se, no.

20 Q Now, again, and this is
21 probably addressed to you, Mr. Webb, Dr. Gunn has told
22 us at some length in his evidence at Yellowknife of his
23 concern over the disturbance of snow geese in feeding
24 areas on the North Slope while they are storing energy
25 for the flight south. Is that a concern that you share?

26 A Yes, I am aware of the
27 general fall staging situation with respect to snow geese
28 and also where they can be disturbed.

29 I might fall a little short
30 of well, let me say this, I am not sure that I have

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1 seen any of Dr. Gunn's testimony or reports, the
2 discussion of the biological consequences of disturbance
3 that perhaps isn't as complete as it might be.

4 Q I am sorry, I didn't catch
5 that last ---

6 A The biological consequences
7 of disturbance to those geese in the fall nesting
8 area is not being fully ascertained in my view.

9 Q So when, in your view, you
10 are not prepared to say whether there might be
11 irrevocable damage done to snow geese due to disturbance
12 as they store food or whether there is only tolerable
13 damage.

14 A I think that it is evident
15 that in some years of late nesting on Banks Island,
16 in particular that the snow geese make their first
17 migratory flight which is to the Hay-Zama Lakes region
18 of Northern Alberta in less than optimum conditions and
19 this just hasn't been demonstrated that this has an
20 undue harmful effect on the survival of that population,
21 that's all.

22 Q I take it though, you are
23 not prepared to go so far as to say that the disturbance
24 of snow geese while they are in this energy build up
25 situation will not be extremely detrimental.

26 A I would be of the opinion that
27 it would be detrimental but the word "extreme" should
28 be discussed a little bit further.

29 Q You are not prepared to say
30 whether it will be extreme or tolerable?

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1 A I would view it as not likely
2 of critical importance to the survival of that population.

3 Q Now, once again, Mr. Webb,
4 and this is well perhaps I can address this to Mr.
5 Rempel to begin with. I would like to read you, if I
6 may, sir, a relatively lengthy quote from a document
7 which has not been filed, Mr. Commissioner, but which
8 I assume will be. It is entitled "The Study of the
9 Distribution and Movements of Snow Geese, Other Geese
10 and Whistling Swans on the Mackenzie Delta, Yukon
11 North Slope and Alaskan North Slope in August and
12 September, 1975" and it is done by Mr. Koffski of L.G.L.
13 Ltd., one of Arctic Gas's consultants.

14 MR. MARSHALL: Sir, I believe
15 this is a report that obviously relates to the cross-
16 delta. It is one that Dr. Fyles seems to have
17 received before I have so --

18 MR. GOUDGE: It may be a leak.

19 MR. MARSHALL: So he may have the
20 only copy in Inuvik, sir. I am going to check to see
21 if there, copies have been sent out to the other parti-
22 cipants and perhaps even to me.

23 MR. GOUDGE: If heads will roll.

24 THE COMMISSICNER: Maybe Dr.
25 Fyles got his copy through CARC.

26 MR. MARSHALL: I should get on
27 CARC's mailing list. I have been trying to do it for
28 some months.

29 MR. GOUDGE: At any rate, Mr.
30 Rempel, this is a relatively lengthy quote from an

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1 article by Dr. Gunn in the back of this volume and if
2 you will bear with me, I would like to read it to you
3 and ask you whether you agree or not.

4 "The problem," he says, "comes with the
5 establishment of processing plants at or
6 near the wellhead for the purpose of
7 modifying the composition of the gas or
8 oil to a form suitable for extended
9 transmission. If full development of
10 such processing plants were permitted on
11 the delta, it would entail intensive
12 on-site and support activity during
13 construction and a fairly high level of
14 human presence, aircraft, and vehicular
15 and perhaps barge activities during the
16 lifetime of the project. There is also
17 the problem that such plants are much more
18 difficult to maintain as environmentally
19 clean operations on a well site. Of the
20 /presently companies known to be planning production
21 in or near the delta, the Gulf site at
22 Parsons Lake presents no direct threat to the
23 delta since it is well clear of the delta
24 Imperial site at Taglu and Shell's site at
25 Niglintgak, however, are not only well within the
26 outer delta, but are actually within the
27 confines of the Kendall Island Bird Sanctuary
28 which is of great importance to geese, swans
29 and other water fowl. If Sun Oil were to
30 develop a gas find on or near Garry Island, they

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1 would probably wish to have their own
2 processing plant and the sanctuary would
3 then be effectively ringed by plants.
4 Proliferation of other plants and sites on
5 the Delta would be difficult to prevent
6 Although the environmental effects of any
7 one of these plants might individually be
8 acceptable, we are particularly concerned with
9 the confined and cumulative effect because we
10 believe that they would unquestionably result
11 in deterioration of the delta as a viable
12 ecological unit; we are therefore strongly
13 opposed to the processing plants on the
14 delta. In our view, these plants should be
15 located on the mainland to the southeast
16 where they could be connected to Inuvik by
17 a permanent road."

18 Let me ask you to
19 comment on that particularly in light of Dr. Gunn's
20 concern about proliferation of other plants.

21 WITNESS REMPEL: I can't really.
22 I thought that was answered within the technical
23 discussions but that is a fairly broad statement
24 as proliferation of gas plants as we are now planning
25 as proposed the three plants in terms of the three
26 companies. I know of no other plans for plants at this
27 time. I certainly can't speak for the future.

28 Q Let me ask you this. From
29 an environmental point of view, do you, as an environ-
30 mental panel rest easy with the prospect of a

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1 proliferation of other plants in the Delta?

2 A Well, I don't think anybody
3 would rest easy with a strong term like proliferation.

4 Q I wonder, Mr. Webb, if you
5 have any comments on that broad brush and relatively
6 basic concern that Dr. Gunn expresses.

7 WITNESS WEBB: I was going to
8 ask if I would be allowed to make a comment since
9 you addressed the panel in general.

10 I think I would not rest
11 easy and with that broad brush statement, certainly it
12 conjures up the picture that could be detrimental to
13 water fowl in particular on the outer delta depending
14 on location, stipulations, time of the year, various
15 activities, etc.

16 Q I take it then your view
17 would be if only three plants, perhaps; if more, a
18 question mark.

19 A I think that is a fair
20 statement.

21 Q Now, Mr. Wopnford, before
22 I leave the, my few questions on birds, I have one
23 question which is purely my own and I am interested in
24 it just out of curiosity. At page 3102 of your
25 larger volume, you refer to a kind of contingency plan
26 where hydrocarbons --

27 WITNESS WOPNFORD: I am sorry. Is
28 that page 3102?

29 Q Page 3102, yes, sir. Right
30 at the bottom of the page where abnormal effluents are

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1 dealt with.

2 MR. BALLEM: Mr. Commissioner, I
3 think it is the yellow copy.

4 THE COMMISSIONER: Okay.

5 MR. GOUDGE: It is not worth
6 looking up, sir, it is a very brief question.

7 WITNESS WEBB: But will the
8 answer necessarily be brief?

9 Q Let me just read you the
10 sentence, "If hydrocarbons are lost into areas
11 frequented by large numbers of birds, predetermined
12 plans to prevent birds from using the area should be
13 put into operation." How do you do that?

14 WITNESS WOPNFORD: I am sorry. I
15 can't find this. It is on page --

16 Q Right at the bottom of page
17 3102.

18 A Oh, I see. You may do it
19 with some noise mechanism. Sort of a scarecrow effect,
20 if you like, or I suppose you could even call it
21 harassment of the birds to keep them out of that
22 particular area.

23 Q Now, finally, let me move
24 to the areas that you touch on in the last paragraph --

25 THE COMMISSIONER: Just before
26 you leave Dr. Gunn's statement, did he say that he felt
27 the three plants now planned should be moved to the
28 east side of the somewhere east of Inuvik, wherever that
29 is, did he say the three plants now proposed or was he
30 speaking of his apprehension regarding proliferation of

1 the plants? Would you mind reading that again?

2 MR. GOUDGE: Yes, sir, I would
3 be glad to. The last sentence, the last two sentences
4 of the quotation I read which appear on page ten of his
5 study attached to this report are as follows:

6 "Because we believe that they would
7 unquestionably result" -- pausing there, I
8 think he is referring to the three proposed plants--

9 "they would unquestionably result in
10 deterioration of the delta as a viable
11 ecological unit; we are therefore strongly
12 opposed to processing plants if on the delta.

13 In our view, these plants should be located
14 on the "Mainland" to the southeast where they
15 could be connected to Inuvik by a permanent
16 road."

17 THE COMMISSIONER: Let me just.
18 I don't have a map here that -- Dr. Gunn had the
19 distinction of being, I think, the only environmental
20 witness when he was called by Arctic Gas that, whose
21 presence on the stand did not result in a great flock
22 of other witnesses turning up to refute him which --
23 it hasn't happened yet.

24 You said you had one more
25 question.

26 MR. GOUDGE: One more area, sir,
27 yes. Mr. Rempel, you spoke on Saturday a little about
28 your monitoring plan. Do you differentiate monitoring
29 from surveillance?

30 WITNESS REMPEL: Yes.

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1 Q Are those two terms of art?

2 A Yes, we distinguish between
3 monitoring and surveillance.

4 Q Could you briefly capsulize
5 the distinction?

6 A Well, surveillance, that is
7 the type of thing we do with our environmental officers
8 who go out to these field operations as individuals,
9 look at what is going on and determine whether or not
10 it conforms to first, good practices from the company's
11 policy point of view and secondly, that the stipulations
12 that have been attached to the land use permits are
13 adhered to.

14 That's the surveillance. The
15 monitoring, first of all, various kinds of monitoring.
16 One would be the air quality, that is, take samples of
17 air, have it analyzed, secondly to have instrumentation
18 out to measure ground temperatures, that sort of thing.

19 Q Surveillance then is
20 essentially policing?

21 A Yes, in my terms.

22 Q Now, you propose as you say
23 in your prepared evidence to have monitoring of these
24 three projects as they go forward. There is no doubt
25 about that.

26 A Yes.

27 Q Is the monitoring going to
28 be directed largely at determining, at discovering
29 matters of fact that relate to the successful continued
30 operation of these plants? Is it going to be operational

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1 in orientation or will it be as well oriented towards
2 the environmental protection?

3 A Well, first of all, we
4 assume that the normal monitoring for the operational
5 aspect will be carried on, what we were speaking about
6 here was the monitoring for environmental effects.

7 Q And I take it you would
8 include within that kind of monitoring, monitoring of
9 air quality, monitoring of the effect on snow geese
10 and so on.

11 A Vegetation, mammals, yes.

12 Q Yes, the whole range of
13 environmental interaction between your projects and
14 the environment would be under this monitoring
15 umbrella.

16 A That is correct.

17 Q And I take it that kind of
18 process could then be used as a kind of early warning
19 system for environmental impact purposes?

20 A That is part of the intention,
21 yes.

22 Q To operate that effectively,
23 there is no doubt that you are going to need skilled
24 people?

25 A That is right.

26 Q Do you have any plans at
27 foot at present to create that skilled monitoring core
28 that you are going to need?

29 A We don't have any official
30 document but we have discussed this within our

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Cross-Exam by Goudge

1 company with experts that we have in house. We have
2 also discussed this with other consultants and we have dis-
3 cussed it with the representatives of the other two
4 companies.

5 Q Yes and you would propose
6 to go ahead with plans to develop that kind of
7 expertise.

8 A Yes, one of the concerns,
9 of course, would be, or considerations is that we
10 would need to coordinate with whatever monitoring, etc.
11 that the government had in mind or would require us
12 to do. We also think that much of this monitoring
13 could be shared; in other words, the same experts
14 could perform the functions for the, not only the
15 producers but perhaps also for a gas pipeline.

16 Q Mr. Wopnford, does Shell
17 propose to move along the same road?

18 WITNESS WOPNFORD: Our present
19 stage of planning, we haven't discussed this in any
20 depth. We have been accumulating baseline data though
21 for some time ^{through the} work that Slaney has done. I would
22 think that we would want to test our thesis that there
23 isn't going to be any significant disturbance and I
24 believe that we would want to monitor in a fashion
25 that would allow us to prevent or correct any
26 interference in the environment that we hadn't foreseen
27 so yes, I would expect that we would do those sort of
28 things. Our planning is not at the stage that Mr.
29 Rempel has discussed.

30 Q Mr. Appleton?

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Cross-Exam by Goudge

1 WITNESS APPLETON: Yes, I would
2 generally agree with Mr. Rempel's statement.

3 Q And Gulf is moving forward
4 in that direction.

5 A Yes, as Mr. Rempel mentioned,
6 we have been talking to him and as our planning gets
7 under way, we will be taking that into consideration.

8 Q Now, as to your environmental
9 training, Mr. Rempel, you have given us in detail and
10 supplied us through filing with more detail of the
11 present training techniques that you use for your
12 people as to environmental matters. Are you content
13 with those as environmental training methods for this
14 project or is it going to require more?

15 WITNESS REMPEL: Mr. Goudge,
16 those were turned in as examples of the kinds of things
17 that we have done in the past. They certainly are not
18 all inclusive and we would, in fact, have some specific
19 environmental programs for this project which would,
20 I believe, encompass some of the principles that we have
21 worked on for the past five or six years.

22 Q So that you are confident
23 in saying the environmental training you are going to
24 undertake for this project will go beyond the examples
25 that you have supplied us with?

26 A I would think so, yes.

27 Q Yes, and the other two
28 companies, likewise?

29 WITNESS WOPNFORD: That is correct.

30 WITNESS APPLETON: Yes.

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Cross-Exam by Goudge

1 Q I take it you are not as
2 at present prepared to say how far beyond or to give
3 us any details of the kinds of environmental training
4 techniques you will see necessary for this project?

5 WITNESS REMPEL: We haven't
6 developed it to that stage but certainly one of the
7 main considerations is to give those people the
8 training which relates to their specific ability, shall
9 I say, or whatever work is related to something that
10 might harm the environment.

11 Q Now, this may not be an
12 appropriate question for you but rather for the policy
13 panel, would you anticipate plans for this kind of
14 training program to be developed separately or will
15 it be done jointly amongst your three companies and
16 perhaps the pipeline companies?

17 A We are proposing and we have
18 talked this over within our environmental group which
19 includes the three companies to at least have the plans
20 jointly but the implementation would be by each specific
21 company.

22 Q Would your joint planning
23 include the trunk line company?

24 A We have talked to representa-
25 tives of the pipeline, one of the pipeline companies,
26 on the broad generalities of that, yes.

27 Q And in your view, that is
28 desirable, I take it.

29 A Yes, where there is an
30 overlap of the type of considerations I am talking about.

Q Now, lastly, let me turn to the matter of contingency plans which Mr. Bayly dealt with you at length on. I take it, if I can begin from one or two small points, there is no doubt that the activities that your people are engaged in involve toxic materials. There is no doubt about that.

A That is correct.

Q Drilling and exploration perhaps can be said to involve toxic materials in relatively large quantities. Would you agree?

A That's correct.

Q And spills are, as a result, a crucial problem, the prevention and containment of spills are a crucial problem and we have seen that throughout your evidence that you are treating it as a crucial problem.

A That's correct.

Q I take it this is perhaps enhanced as a problem by the fact that at least two of the developments, the Imperial development and the Shell development are taking place in what I might describe as relatively low level parts of the delta. Would you agree with that?

A I would say our concern would be as great wherever we were but perhaps didn't understand your question.

Q Well, isn't it true that the Shell and Imperial developments are taking place in areas which are on occasion as a result of floods or what have you completely over-run by water, at least

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Trans-Exam by Goudge

1 as they presently stand?

2 A Certainly our preventive
3 measures are based on that fact, yes.

4 Q Yes and that that risk
5 enhances the overall risk of toxic material spillage
6 that arises in connection with gas plant and
7 gathering system development.

8 A If in fact, our preventive
9 measures were not successful.

10 Q Yes, and your preventive
11 measures must take account of, not only the use of
12 toxic materials in the quantities that exist but as
13 well the low level in which the Shell and Imperial
14 developments in particular are taking place.

15 A Yes, we certainly have
16 to take into account the special circumstances of the
17 area.

18 Q Yes, now, let me add one
19 other fact which I would ask you to agree enhances the
20 risk that toxic materials pose in the delta and that's
21 the very simple fact of snow and ice, spills on and
22 under snow and ice enhance the difficulties and the
23 threats posed by toxic materials in the delta?

24 A Well, before agreeing to
25 that statement, Mr. Goudge, I, could you give me an
26 example of the kinds of things that you are --

27 Q Well, I am concerned about
28 the difficulty that planning for spills under ice
29 presents that you don't have when there is no ice.

30 A Well, I was wondering where

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Cross-Exam by Goudge

1 the threat was, that you were thinking of, of spills
2 under ice --

3 Q Well, I am just asserting
4 a very simple proposition and asking you to agree, Mr.
5 Rempel, that the existence of ice adds to the danger
6 and makes more difficult, the contingency planning
7 presented by toxic material.

8 A In that context, I would
9 agree.

10 Q You would agree with me as
11 to that? So that we have the large use of toxic materials
12 the relatively low levels of two of the developments
13 and the difficulties presented for cleanup by the
14 presence of snow and ice. Those go together as
15 perhaps three major elements to make contingency
16 planning absolutely crucial in the delta. Would you
17 agree with that?

18 A Absolutely -- ?

19 Q Crucial.

20 A They are crucial, I think,
21 absolutely in any development of the type we are
22 proposing.

23 Q Yes.

24 WITNESS WOPNFORD: Mr. Goudge,
25 may I just interrupt for a moment?

26 Q Sure.

27 A I think that one of the
28 easier times to cleanup a spill is when, in fact,
29 you are in snow and ice provided it stays on top of
30 the ice or if you have the capability of scraping the

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1 snow and making dykes so really the major problem is
2 if that spill gets underneath the ice, having it on
3 the surface of the ice in the presence of snow and ice
4 is not a, it is rather a better time.

5 Q No doubt though, that a
6 spill under the ice adds very significantly to the
7 problem.

8 A That's correct.

9 Q Yes, now, in that connection,
10 Mr. Rempel, you said in answer to Mr. Bayly that
11 D.E.P.U., I think those are --

12 WITNESS REMPEL: D.E.P.U., yes.
13 Delta Environmental Protection Unit.

14 Q That organization has
15 conducted some tests, has it not, concerning spills
16 related to under-ice areas?

17 A Not under-ice areas, no. I
18 didn't say that.

19 Q Is it planning to do so?

20 A We do not have any plans
21 that I know of, of specifically testing under the ice
22 because that area is being looked at now through the
23 Beaufort Sea Environmental Program and we are waiting
24 the results of some of the tests that have been
25 conducted in line with that program.

26 Q Is your understanding that
27 those tests do address that problem?

28 A That's my understanding, yes.

29 Q And I take it, once receiving
30 those tests, you will make a judgment as to whether the
tests adequately solve the problem and if not, you will

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is-Exam by Goudge

1 conduct your own?

2 A We will certainly look at
3 it on that framework.

4 O Yes, well given the problem
5 that it presents, the problem of the contingency
6 planning for mop-up under the ice, somebody has got to
7 do tests that show how it can be done.

8 A Sir, some of the tests have
9 been conducted in other areas in Canada where they also
10 have ice and I believe that has resulted in some
11 knowledge and is going to provide us with some further
12 backup material with which we can, in fact, perhaps
13 design a test of the type you are, I think, you are
14 bringing forth here.

15 Q Finally, there is a
16 reference in the Gulf material at page 2.68 to what
17 I take to be a report entitled "Arctic Oil Contingency
18 Plans for Gulf Oil Canada Ecological Evaluation."
19 Mr. Appleton, are you familiar with that document?

20 WITNESS APPLETON: Yes.

21 Q Would you be able to supply
22 us with a copy of that document?

23 A Yes, I believe so. It's
24 filed with all governmental agencies because of the
25 interaction that is necessary in the Territories.

26 Q We would be grateful if you
27 could forward a copy to us. Well, to the Inquiry.
28 Mr. Rempel, finally, do you know of any research that
29 is being done anywhere as to spillage on snow covered
30 areas?

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1 WITNESS REMPEL: Certainly, there
2 has been work done in Alaska on spillage of particularly
3 fuel oil and crude oil in the snow covered areas.

4 Q Do you have access to any
5 reports that deal with that problem?

6 A Yes.

7 Q And have you based your
8 contingency plans on those reports?

9 A To some extent, yes.

10 Q Perhaps, sir, you could
11 supply us with a list of those reports that you relied
12 on in preparing your contingency plans, the reports
13 related to spillages on snow. Would you be good enough
14 to do that?

15 A Yes, I will provide what
16 we have.

17 Q Those conclude my questions,
18 sir, I have been asked to ask by the Inuvik and
19 District Chamber of Commerce, three questions of this
20 panel if I might put them now, sir.

21 First, Mr. Rempel, perhaps
22 you and the panel could give me your estimates of the
23 total quantity of gravel available in Richards Island,
24 Parsons Lake area. Are you able to respond to that
25 question?

26 A Yes, however before I go into
27 some further discussion, I would like to refer you
28 back to some statements that Mr. Mainland made with
29 regard to the gravel source that we proposed to use and
30 in fact, are using now at Yaya Lake. He made reference

leton, Remel, Webb, ...
... by ...

1 to .9 point some million cubic yards of gravel at a
2 specific site there that is proposed for development.
3 That is what you might refer to as a proven reserve
4 or deposit outlined by some very detailed work. Some
5 years ago, when we recognized this problem of gravel
6 and the importance, we went to a consultant, the
7 industry did, to a consultant, Dr. Mollard out of
8 Regina and asked him to make a survey of granular
9 material in the Richards Island and adjacent areas
10 and as I recall and a copy of this report is on its
11 way up here. It was one of those A.P.O.A. Reports
12 that had a secrecy clause which has now lapsed so that
13 report is available.

14 Dr. Mollard, with the
15 techniques he used, came up with some rather remarkable
16 figures and that was that there is about 2 billion
17 cubic yards of gravel in the area that I am speaking
18 about, that's basically the Parsons Lake, the Caribou
19 Hills and the Yaya Lake. He actually looked at 65
20 prospective sites in the delta and of the 65, 13 included
21 these 2 billion cubic feet of gravel or I should say,
22 granular material which approximately 1.7 billion cubic
23 yards was in the Caribou Hills region which is at
24 present being investigated by the government for a
25 source of gravel. That's the north end and Dr. Bliss
26 mentioned this as perhaps part of the, of an I.B.P.
27 proposed site and it would be used to assess the impact
28 of that kind of development on an ecological area.

29 Q I take it, sir, we will
30 have a chance to receive a copy of Dr. Mollard's report.

Isleton, Rempel Webb, Wopnford
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1 Is that your intention, Mr. Ballem, once it arrives?

2 MR. BALLEM: Yes, it is being
3 mailed out now and as soon as it arrives here we will
4 file it.

5 THE COMMISSIONER: I just
6 appreciate you giving that introductory passage but
7 I thought, what was the, I thought the question was
8 how much gravel is there in the delta area?

9 MR. GOUDGE: In the Richards
10 Island, Parsons Lake area.

11 THE COMMISSIONER: Yes, and you
12 are adopting Dr. Mollard's report as your answer.

13 WITNESS REMPEL: Yes, but I
14 didn't want to leave the impression that this 9
15 point some million cubic yards in Yaya was all the
16 gravel that was there, that there, in fact, at Yaya
17 is much more. It may or may not be available depending
18 on the techniques and the restrictions on extraction
19 but that most of the gravel in the area appears to be
20 in the Caribou Hills and when I say gravel, I'm using
21 it in a pretty broad sense. It is really sand and
22 gravel granular material.

23 THE COMMISSIONER: Right and you
24 say that Mollard's report indicates that if you take
25 the Caribou Hills into account, you have got something
26 like 2 billion cubic yards?

27 A 2 billion cubic yards, yes.
28 Now, that has to be proven because his work is done on
29 surface information and his techniques of prediction
30 is interpretation.

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1 THE COMMISSIONER: He is the
2 terrain mapping man, isn't he?

3 A Yes.

4 THE COMMISSIONER: We were told
5 that the government had taken an inventory of gravel in
6 the whole of the valley that came to something like
7 400 million cubic yards. Are you familiar with that?

8 A I am not familiar with that.

9 THE COMMISSIONER: I see Dr.
10 Fyles scratching his head. Well, let's go on with
11 something else then.

12 MR. GOUDGE: I take it, Mr. Rempel,
13 you have no knowledge as to what percentage, if any,
14 of the 2 billion cubic yards that Dr. Mollard suggests
15 would be considered "available" or usable.

16 A As I understand it, that
17 was the figure that he used for usable with, of course,
18 some percentage of wastage when you are, in fact,
19 exploiting that type of a resource.
20
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Q One question I

WITNESS REMPEL: I don't have

Q Can you give us an

THE COMMISSIONER: could they?
Well, how /

MR. GOUDGE:

THE COMMISSIONER: Well, you gave

MR. GOUDGE: I assumed as much.

THE COMMISSIONER: It came to

WITNESS REMPEL: For the Taalu site.

MR. GOUDGE: Can you recall those

1 figures?

2 THE COMMISSIONER: It was
3 something like three over two billion.

4 WITNESS WOPNFORD: The total
5 figure that was quoted the other day was four and a
6 half million.

7 THE COMMISSIONER: For all
8 three projects?

9 A For all three projects.

10 MR. GOUDGE: So the percentage
11 is simply as I would do the mathematics, Mr. Rempel,
12 $4\frac{1}{2}$ million cubic yards over 2 billion cubic yards.

13 WITNESS REMPEL: That's correct.

14 O And the third
15 question that I have been asked sir is, in your opinion
16 and that of the panel will there be sufficient economical
17 gravel available for community use at Inuvik and
18 Tuktoyaktuk?

19 A I would have to assume
20 that provided all this gravel is available for those
21 purposes , and provided that Dr. Mollard is right in
22 his interpretation, that there seems to be sufficient
23 amounts there for some considerable time.

24 THE COMMISSIONER: It would
25 appear so.

26 MR. GOUDGE: Those are the
27 questions I have been asked. There's one more question
28 I have been asked by the Inuvik and District Chamber
29 of Commerce to ask. I think if I may sir I'll defer
30 it to the socio-economic panel or to the policy panel.

1 THE COMMISSIONER: Dr. Mollard's
2 figure of 2 billion^{cubic}/yards, that's something like the
3 ultimate recoverable potential of the MacKenzie Delta
4 and the Beaufort Sea. You don't count that as proven
5 or even probable, do you?

6 A Well I had in mind at
7 first using the term potential reserves but I thought
8 perhaps I should steer clear of that, but Dr. Mollard
9 has a little more visual evidence and I would assume
10 that perhaps his figures relate more to what's there
11 than say some of the other figures I've heard. But
12 still must be proven.

13 THE COMMISSIONER: Right. Any
14 re-examination?

15 MR. BALLEM: I have a few
16 questions sir, but I see the coffee machine is ready
17 and maybe we could clean it up after that.

18 THE COMMISSIONER: All right.
19 Just before we do, maybe I could just say that with
20 reference to Dr. Gunn's evidence it is, of course,
21 the responsibility of the Department of Indian Affairs
22 and Northern Development to consider the applications
23 by Shell, Gulf and Imperial to build these gas plants.
24 We're looking at the impact of the gas plants so that
25 in considering the impact of the pipeline we have the
26 whole picture before us and are^{not just looking} at one corner of this
27 thing - I say that because the reference to Dr. Gunn's
28 statements shows that you can't consider the impact of
29 the cross delta route on the bird habitat the delta
30 offers, without considering at the same time any
alteration in that habitat that the gas plants,

1 gathering systems that you intend to build, would
2 have upon it at the same time; just as we really can't
3 consider the impact the cross delta route would have on
4 the belugas, without considering at the same time the
5 impact of the off-shore drilling program on the arctic
6 islands; not on the arctic islands, the man-made islands
7 and the impact that the dredging, if it occurs, of the
8 Kugmallit Bay, the Eskimo Fingers and the Husky Lakes
9 would have. I only say that, as preliminary to this,
10 when Dr. Gunn gives evidence next month in connection
11 with the cross delta route, he might comment on what
12 I'm about to say, and that is that since we are
13 concerned with the total impact of the pipeline and
14 the gas developments on the delta's bird habitat and
15 since he has said that he's sufficiently concerned
16 that he would prefer to see these gas plants situated
17 on the mainland/^{on} the east side of the delta, would he
18 consider, no doubt he has, but it's possible he hasn't,
19 would he consider the consequences of doing that;
20 because it seems to me you'd have to have flow lines
21 built across the delta from the wells, to the gas plants
22 on the east side of the delta. The actual pipeline
23 mileage in terms of flow lines, might well exceed the
24 combined mileage of the trunk pipeline and the flow
25 lines as at present conceived. The engineering
26 difficulties that might be encountered in building
27 those flow lines from Niglintgak, Taglu and Parsons
28 Lake to the mainland on the east side of the delta
29 might well be very considerable, and all of that, I
30 know that Dr. Gunn's evidence is confined to birds,

1 but all of that activity might well, in total, present
2 as much of a problem in terms of the alteration of the
3 bird habitat in the delta, as the^{three} gas plants, with
4 their limited gathering systems, more limited because
5 the gas plants are closer to the wells, the way the
6 thing is presently designed, than that does. Well,
7 I don't know what he's going to make of that.

8 MR. BALLEM: Could I just add
9 something to that, Mr. Commissioner, before we break off?
10 I think it's emerged from the evidence of the technical
11 site-specific panels , particularly for Imperial and
12 Shell, and we could go back into it again, but I think
13 it's sufficient if I observe that I think they testify
14 that in addition to the difficulties which you have
15 suggested, there remains the fact that in order to
16 move this gas any distance from the well, you would
17 have to install compression facilities, and that those
18 facilities are really, in terms of an impact, the
19 worst part of the whole scene; in other words, the
20 producing or processing facilities as I understand it
21 have a reasonably minor impact as these compressors
22 and there are very strict engineering limitations on
23 how far you can move those, and in addition of course,
24 by transporting the raw gas you have some additional
25 hazards that have been described. I just throw that in
26 so we have it before us.

27 THE COMMISSIONER: All right.
28 Well, we'll stop for coffee then.

29 (PROCEEDINGS ADJOURNED FOR A FEW MINUTES)

30 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

1 THE COMMISSIONER: Yes, Mr.

2 Ballem?

3 MR. BALLEM: I just have a
4 couple of questions on re-direct, Mr. Commissioner.

5
6 RE-EXAMINATION BY MR. BALLEM:

7 Q The first one is really
8 to Mr. Rempel. I believe that you had some discussions
9 with Mr. Bayly concerning the berge transport of
10 fuel down the river system, do you recall that, Mr.
11 Rempel?

12 WITNESS REMPEL: Yes, in
13 general.

14 Q And are you aware whether
15 or not fuel has^{been} barged down the system for uses that
16 are entirely separate from the operations which we
17 propose? I'm thinking of communities' fuel needs and
18 so on.

19 A Well certainly fuel has
20 been moved down the MacKenzie River for many years and
21 particularly since about the mid-fifties when in fact
22 rather large amounts were brought up here first of all
23 for the Dew Line, subsequently for developments such as
24 Inuvik, and then of course followed by the oil industry
25 operations.

26 Q Mr. Appleton, could you
27 tell the Commission where you will get your gravel
28 requirements for the proposed Parsons Lake development?

29 WITNESS APPLETON: Yes, we
30 plan to obtain our gravel in the Parsons Lake area,

1 and the area in particular is delineated on the maps in
2 our land tenure. At the present time we believe that
3 our potential reserves are about 1.8 million in that
4 particular source, and we applied for a land use permit
5 to do further testing to determine what the ultimate
6 reserves might be for that general area.

7 Q Are you in a position now
8 to know whether or not there is enough there for your
9 purposes for your proposed development?

10 A Based on our preliminary
11 estimates, that one source would satisfy our needs,
12 however I might add that the general east area of
13 Parsons Lake is an area of eskers, and at present we
14 are exploiting two of them ^{for our present needs} for our exploration
15 requirements, and there are many of these eskers
16 available which are relatively small in quantity, in
17 the neighbourhood probably of anywhere from 100 to
18 300,000 cubic yards each that could be exploited.

19 MR. BALLEM: Those are all
20 my questions, Mr. Commissioner. Thank you.

21 THE COMMISSIONER: Thank you
22 very much, members of the panel, Mr. Webb, Mr. Wopnford,
23 Mr. Rempel, and may I thank you in particular Mr.
24 Appleton, for your evidence on the panel and for your
25 helpfulness yesterday on our trip to see the Gulf
26 facilities. We certainly appreciated that. This panel
27 could stand down and the socio-economic can come
28 forth.

29 (WITNESSES ASIDE)

30 MR. BALLEM: Yes sir, and for

Chief, To, ...
In Chief

1 that purpose I will call Bruce Sider, James Tod, and
2 Max Wopnford, whom we've already met, Mr. Commissioner.
3

4 BRUCE NEALE SIDER and
5 JAMES FRANCIS TOD, sworn:
6 MAX EUGENE WOPNFORD, resumed:

7 DIRECT EXAMINATION BY MR. BALLEM:

8 Q Mr. Wopnford already has been
9 qualified before this Commission sir, so I'd ask Mr.
10 Sider if he would tell the Commission his employer and
11 his present position and his business address.

12 WITNESS SIDER: My name is
13 Bruce Neale Sider, I'm employed ^{with} Gulf Oil Canada Ltd.,
14 I'm presently the co-ordinator of socio-economic affairs
15 in the delta project, located in Calgary, Alberta.

16 Q Mr. Sider, would you
17 briefly summarize your experience with the business
18 in which you participate?

19 A I was educated in Toronto,
20 and joined Gulf Oil Canada, formerly the British
21 American Oil Company, in April of 1950. During the
22 period of 1950 to 1962 I was employed primarily in the
23 financial areas of the industry. In 1962 I joined the
24 Employee Relations Department, and have held a number
25 of positions within that group prior to my recent
26 appointments in July of 1975. During that period I
27 served as supervisor of employment, co-ordinator of
28 university recruitment, advisor of benefits for western
29 Canada, and the administrator at our Edmonton refinery.
30 I also served a period as co-ordinator of northern

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1 employment. In addition, I am currently acting as
2 chairman of the Petroleum Industry Committee on the
3 employment of northern residents. This committee was
4 formed in 1971, and is represented by representatives
5 of Arctic Petroleum Operators, Canadian Association
6 of Oilwell Drilling Contractors, Canadian Society of
7 Exploration Geophysicists, Independent Petroleum
8 Association, Canada Manpower at Yellowknife, Government
9 of the Northwest Territories and the Pipeline Division
10 of the C.P.A.

11 Q Thank you, sir. Mr. Tod,
12 would you advise the Commission of your present position
13 with your employer and your address.

14 WITNESS TOD: Yes, I am
15 presently the operation co-ordinator for the Taglu
16 Gas Plant project, and I work with Imperial Oil in
17 Calgary.

18 Q And sir, would you
19 briefly describe your academic and professional
20 business qualifications?

21 A I graduated from the
22 University of Alberta with a Bachelor of Science
23 degree in petroleum engineering in 1955. Following
24 graduation I joined Imperial Oil and was moved to
25 Saskatchewan at which time I worked for a period of
26 time up until 1961 in the area of reservoir engineering
27 and production engineering. Reservoir engineering was
28 calculations of reserves and production engineering
29 was associated with all the producing activities of
30 the southeastern part of Saskatchewan. From that point

1 in time for a year I was transferred to Tulsa,
2 Oklahoma, where I worked on a research project for
3 the possible development of heavy hydrocarbon in the
4 northern part of Alberta. From 1962 to 1969 I was
5 group engineer, group leader rather, in the reserves
6 and forecast section of Imperial Oil, and production
7 engineering. Following that assignment, in 1969 I
8 became section head of various engineering groups,
9 that included the design of production facilities,
10 gas plants and their operations. In May of 1975 I was
11 assigned to my present job, in which I am responsible
12 for the evaluation of the design work that's being
13 done by the engineering group, to assure its viability
14 for safety and operating reasons. Also included in
15 that responsibility is one of assessment of staffing
16 and planning related to that phase of the work. I am
17 a member of the Association of Professional Engineers
18 of Alberta.

19 Q Thank you, Mr. Tod, and
20 I now propose to file the prepared evidence as an
21 exhibit in these proceedings. And Mr. Sider, I wonder
22 if I could ask you if you would be good enough to
23 present that prepared evidence?

24 WITNESS SIDER: Mr. Commissioner
25 there is no doubt that development of the production
26 facilities associated with the MacKenzie Valley Gas
27 Pipeline, will have a major effect on the lifestyle of
28 many northerners. Certainly there will be some problems,
29 but if the development is properly planned and carefully
30 executed, we believe there will be major benefits to the

1 people of the north. Until recently, many native
2 northerners have lived off the land while supplementing
3 their income by transfer payments of various kinds,
4 and in some cases, by seasonal employment. But the
5 opportunities for employment have been limited.
6 During the past half dozen or so years, however, the
7 exploration phase of the petroleum activities in the
8 delta has provided many seasonal jobs and some
9 permanent positions for northerners. The production
10 and processing stage of our operation will provide the
11 first major opportunity in this region, to advance to
12 the next step in this transitional process. That is,
13 the opportunity of long-term ^{permanent} employment, with continuing
14 opportunities for seasonal employment. It is the
15 position of the producers that long-term employment
16 is consistent with the objectives of formal and informal
17 education programs developed by the Territorial and
18 Federal Government, and our industry. Furthermore,
19 we strongly believe that northerners should be given
20 the opportunity of using the skills they have been
21 encouraged to develop. In this respect, the producers
22 are committed to provide an opportunity for northerners
23 to obtain regular and seasonal employment, according
24 to their abilities and aspirations. Further, we are
25 committed to ensure that northerners will be accorded
26 equality of treatment, with respect to wage levels,
27 allowances, living accommodations at work sites, travel
28 assistance, work schedules and promotional opportunities.
29 To ensure that northerners will have the necessary
30 training and experience to participate in these job

opportunities, and to progress at the earliest date, the Northern Training Program, Nortran, was formed by the producers and pipeline companies. Under this program, the participating companies have identified training positions in gas plants, producing facilities, and pipeline operations, to provide on the job training to northerners in each of the functions. This training is essential to ensure the safe operation of the plant and facilities. As jobs open up in the northern facilities, the northerners will be afforded, will be offered positions, commensurate with their training and ability. In addition to on-the-job training, opportunities are offered for upgrading of education, and for attendance at technical or apprenticeship courses. Because of the problems that can arise due to distance from home, and of resettlement in a new environment, other benefits such as travel subsidies, extra travel time for vacation, and accomodation subsidies, have been provided in the program. An important feature of the program is the commitment by the participating companies, that these are permanent employees, who have been offered permanent employment on the same basis as those hired in the south. At this time, there are 107 training positions available in the Nortran program. 93 northerners are presently employed in various positions and 23 of these people are enrolled in apprenticeship and power engineering programs. Since the Nortran program began, 194 trainees have been employed for various lengths of time. The program will be expanded

1 as required, when there is a firm indication of
2 approval, and timing for installation of facilities.
3 Another significant feature of the Nortran program
4 is the supervisor seminars which have been supported
5 by the Territorial government and native groups such
6 as Indian Brotherhood of the Yukon and Northwest
7 Territories, the Metis Association, C.O.P.E., YANSI
8 Inuit Tapirisat. The seminars are designed to
9 acquaint our supervisors with the responsibility our
10 industry has assumed with respect to training and
11 developing a skilled northern labour force. The
12 seminars are also intended to provide an understanding
13 of issues and concerns important to northern residents
14 with regard to their training and employment.

15 The development of the hydrocarbon resources in
16 the delta will create additional demands for local
17 services such as gravel hauling, sawmills, house
18 prefabrication, bakeries and processing of local foods
19 such as fish and reindeer meat. This will provide
20 local entrepreneurial opportunities, and will create
21 jobs for some northerners who may not want wage
22 employment in the industry.

23 We believe that some northerners will want to
24 continue their present lifestyle, without the
25 supplementary benefits of even seasonal employment,
26 and that others will want only seasonal employment
27 while continuing to hunt, fish and trap during the
28 off-work period. We believe it is important to mention
29 that those northerners who wish to continue harvesting
30 the land and seas, will not be hampered by the proposed

1 production and plant facilities.

2 Producers believe, therefore, that the choice of
3 work opportunities available during the early
4 production phase will help those northerners who wish
5 to make the transition from traditional lifestyle, to
6 those related to permanent employment. With respect
7 to the communities, the producers' plans are sufficiently
8 flexible to permit some control over the degree and
9 rate of impact. Demands on the community and the
10 infrastructure will be of major significance during
11 the construction period. These can be minimized by
12 separating the work force from the communities as much as
13 possible.

14 Present plans call for the operating staff to be
15 housed at the plant site in bachelor quarters on a
16 rotation basis. Crews will be flown in and out of the
17 sites to the specified home bases, probably Inuvik and
18 Edmonton.

19 In the initial period, there will be more jobs
20 available than can be filled from the local work force.
21 Consequently, during this period, it will be imperative
22 that the majority of the operating staff be recruited
23 from the south. It is anticipated, however, that some
24 of these workers eventually may elect to live in the
25 northern communities, rather than commute from Edmonton.

26 As northerners are trained for these jobs, the
27 southerners can be phased out. Therefore, the movement
28 of permanent residents into nearby communities, can be
29 controlled because the replacement process can be
30 accelerated or decelerated, according to the wishes

1 of the community, and other government bodies.

2 In addition to the operating staff located at the
3 plant sites we expect there will also be a small
4 number of company personnel living in Inuvik.

5 The major impact on housing and infrastructure
6 in the short term, will occur from the service industries
7 that will be developed in the area to support the
8 operation. The exact size of this influx is difficult
9 to estimate, because the rate of growth of local
10 businesses will be dependent, at least in part, upon
11 the enterprise of the northerners.

12 The effect on outlying communities such as Fort
13 McPherson, and Aklavik, will be dependent upon the
14 number of people in those communities who choose to join
15 the labour force. The influx of money from wages
16 undoubtedly will allow for improvement in housing and
17 development of better municipal services. The impact
18 on present services such as transportation and
19 communication, should result in a continual upgrading
20 of these services to meet the demand. This forecasted
21 improvement has been amply demonstrated during the
22 recent history of the area, when the increased use of
23 air traffic and telephone systems caused a marked
24 improvement in these services.

25 Our comments to this point have dealt with the
26 impact of the producers in the operating phase. It can
27 be argued, however, that the major impact on the
28 communities will be during construction, when there will
29 be a large influx of workers for short periods. To
30 avoid this, the producers propose that the construction

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1 force will be housed at the work sites. The workers
2 will be flown from Edmonton, or other southern points,
3 to the nearest jet strip, probably Inuvik, then
4 proceed directly to the job. During the construction
5 period, demand for barges will be high, but the actual
6 impact cannot be assessed until we are able to identify
7 the proportional amount of prefabricated modules that
8 will be coming either by sea^{lift} or by the MacKenzie
9 system.

10 The movement of people into the communities began
11 long before the oil industry became active in the area.
12 This continuing movement and the integration of the
13 young people into the expanded education system has
14 resulted in an increasing and irreversible trend away
15 from the traditional life on the land, and a rapidly
16 growing demand for a more stable wage based economy.

17 This is not to deny, however, that a certain
18 portion of native persons may wish to continue to make
19 their living off the land. We believe however, that
20 those people of the area, who have chosen to alter their
21 traditional means of livelihood, must be afforded a
22 prospect of economic opportunity, and social and
23 cultural security equivalent to that offered to
24 southern Canadians. We suggest that development of the
25 hydrocarbon industry will provide such opportunities.
26 We see no other development on the horizon that could
27 alleviate employment and income problems in the area.

28 In the short term, there will be some stresses on
29 the people and on the communities. The transition to
30 joining the wage economy, however, can be continued

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1 without undue hardship by properly conceived, flexible
2 policies, with respect to hiring practices and
3 training programs.

4 As in the past, the producers will continue to
5 work towards a development that will employ to the
6 fullest extent possible, the productive and creative
7 abilities of the residents commensurate with their
8 desires and aspirations.

9 Q Thank you Mr. Sider.

10 You will recall that last week the Commissioner raised
11 some questions as to whether there were any other
12 experiences with employment by any one of the companies
13 that were comparable with the Coppermine operation of
14 Gulf's, and I wonder, Mr. Sider, if you could speak to
15 that?

16 A Yes. Mr. Commissioner,
17 perhaps I'll just say a few words and then
18 to Mr. Tod and Mr. Wopnford. I think it would be
19 useful if we went back and talked for a minute about
20 what precipitated Gulf going into Coppermine, because
21 certainly Coppermine may be unique in some ways, but
22 it certainly doesn't, and isn't intended to suggest
23 that that's the only good piece of work that's going
24 on in terms of native employment.

25 When our company began to increase the participation
26 of the native labour force, they assessed the manpower
27 that was available in the immediate area, recognized
28 that -- I'm sorry sir.

29 Q Your company being?

30 A Gulf Oil. Having assessed

1 the labour force, recognizing that in the immediate
2 communities, the other companies were already heavily
3 involved in the acquisition of manpower from those
4 locations, we decided that if we were to go in, we
5 would simply/^{be,} if you will, raiding the other producers.
6 It was decided then to initiate discussions with the
7 Territorial Government and Canada Manpower, Department
8 of Education, to discuss with them where there may be
9 another alternate supply of manpower that we could
10 look at.

11 In terms of particularly the numbers of people
12 that we were talking about, after considerable discussions
13 with them it was decided that we should look at
14 Coppermine , and one of the things that we were hopeful
15 of doing when we did identify a community was to
16 recognize that that community probably would be in
17 isolation in terms of that there were no other major
18 viable call on the manpower of the town. So, we went
19 with the government at that time and discussed the
20 situation and the possibilities with the Town Council
21 of Coppermine , had them think about it for a period
22 of time, held several seminars with our supervisory
23 people, both Gulf supervisors and our contractor
24 supervisors at our Swimming Point operations, elicited
25 from them their support of the program, and having done
26 that ^{then} went back and initiated the program with Coppermine.
27 And I think there's been enough said about how that has
28 worked out. Mr. Tod, perhaps you'd like to.

29 WITNESS TOD: Maybe I should
30 start by saying that we might have liked to have been

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1 into Coppermine first.

2 THE COMMISSIONER: You're
3 Imperial?

4 A Yes. We started out
5 here in the delta working with the people of
6 Tuktoyaktuk and Inuvik. We have our base camps at
7 Tuk and at Bar C, and we work with the labour force
8 here to build up the requirements that we could fill
9 from this area. In 1973 we found that even from the
10 force that was available here we were not able to meet
11 our requirements and at that time we went in or looked
12 at other communities in the area, and determined that
13 there were two of these which had a large enough work
14 force to enable us to pick up more help from them.
15 So as a result of that, since 1973, we have been
16 bringing people to this area from both Fort MacPherson
17 and Aklavik to supplement our requirements for the
18 labour forces here.

19 I guess as far as, I could maybe go a little bit
20 further, and as far as any formal studies of the nature
21 that Mr. Hobart -- Dr. Hobart has done for Gulf, we
22 do not not have anything in that line of data with
23 which to provide you.

24 THE COMMISSIONER: Thank you.

25 WITNESS WOPNFORD: We have not
26 had a formal program, as Mr. Sider has described at
27 Coppermine, however we have an arrangement with the
28 employment officer of the Territorial Government or the
29 hamlet, the council of Fort McPherson, where he provides
30 us, right at the moment I believe we're using 8 people

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Cross-Exam by Bell

1 from the labour pool, and he's responsible for getting
2 our requirements out of that community. In Aklavik
3 it has been even less formal than that but traditionally
4 we've used Aklavik as a source of seasonal employment
5 on our seismic crews, usually with 20 to 30 people
6 employed out of there. We don't have a crew operating
7 at the present time, so we have some other people
8 working on our job, but not of that magnitude.

9 THE COMMISSIONER: Thank you
10 very much.

(EVIDENCE OF SIDER, TOD & WOPNFORD MARKED EX.436)

11 MR. BALLEM: Thank you,
12 gentlemen, and this panel is now available for cross-
13 examination.

14 MR. MARSHALL: I have no
15 questions sir.

16 MR. HOLLINGWORTH: I have no
17 questions Mr. Commissioner.

CROSS-EXAMINATION BY MR. BELL:

18 Q I'd like to direct
19 my first questions generally to the panel. Mr. Ballem
20 told us the other day that this panel would not be
21 relying on a study by Van Ginkel & Associates Ltd. entitled
22 "Communities of the MacKenzie", done in 1975 for
23 the producers at Arctic Gas. Is that correct?

24 WITNESS SIDER: That's correct
25 sir.

26 Q I take it you will be relying
27 on this volume entitled

28 "Response To Information Request For Socio-Economic
29 Supplementary Concerns".

30 WITNESS TOD: Yes sir.

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Cross Exam by Bell

1 Q That's really part of your
2 proposal.

3 A Could you repeat that please?

4 Q That's really part of your
5 proposal, isn't it?

6 A Yes sir.

7 Q Do you have a copy of that
8 with you, sir?

9 A I have.

10 Q Could I ask you to turn to
11 page 43? You see concern number 13 on that page?

12 A Yes sir.

13 Q Which says the proponents
14 are asked their views on the following social effects
15 of the proposed development and I'll direct your
16 attention to the last one on the list lettered 'I'.

17 "The effect on ethnic population balance in each
18 community, and for the region as a whole, and the effect
19 on the types of programs, government and private,
20 presently being offered, if there is a significant
21 change in the ethnic population/^{balance}of the study region."
22 And I think you'll find the answer to that request on
23 page 46.

24 A Yes sir.

25 Q At paragraph 'I' it reads

26 "The Van Ginkel Associates Ltd. 1975 report on
27 'Communities Of The MacKenzie' records on page 25 that
28 in 1971, the population of Inuvik stood at 3,500,
29 comprised of 1,600 native and 1,900 other. On page 30
30 it is estimated that Inuvik's work force will include

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Cross-Exam by Bell

1 40% natives, which is seen as an ongoing percentage.
2 On page 46, projections under different circumstances
3 show Inuvik with a population in 1985 ranging from a low
4 of 6,035 to a high of 10,950."

5 Is that the only part of the Van Ginkel report that
6 you're relying on?

7 A I'm not too sure, Mr. Bell,
8 what you mean by "are we relying on that?" I think
9 that's simply used as a quote from that volume to make
10 our point contained in the next paragraph.

11 Q That's what I mean by
12 "relying on".

13 A If that's "relying", yes
14 sir.

15 Q Well, are there any others
16 like that?

17 A I couldn't immediately say
18 "yes" or "no" to that. There may be one or two other
19 references to that particular publication.

20 Q I ask you, sir, have you
21 read the Van Ginkel report?

22 A I have.

23 Q And are there any parts of
24 it that you as an individual disagree with?

25 A I think, Mr. Bell, I would
26 say that in general, the producers agree with the
27 information contained within that report.

28 Q Well, do you have a copy of
29 it with you?

30 A No, I do not, sir.

Sider, Tod, Wepntera
Cross-Exam by Bell

1 Q Well you see the table of
2 contents there. Is there anything in Chapter 1 that
3 the producers disagree with?

4 MR. BALLEM:
5 Well Mr. Commissioner, I
6 really feel that a question of that sort is much too
7 generalized and non-specific to permit any kind of
8 useful response.

9 THE COMMISSIONER: I think so
10 too, Mr. Bell. Where is that going to get us?

11 MR. BELL: Well sir, I'm just
12 trying to find out the parameters of the witness's
13 response, because it seems to me to be inconsistent.
14 We have on the one hand Mr. Ballem saying they don't
15 rely on it, but Mr. Sider saying that in general they
16 do agree with it.

17 MR. BALLEM: Mr. Bell, I think
18 really that what I said, very specifically, was that
19 we are not proposing to introduce the Van Ginkel report
20 as part of the evidence we bring before this Commission.
21 We participated in its funding, and we did file it last
22 November 1974. However, it is our understanding, which
23 I conveyed to the Commission, that Arctic Gas, at the
24 proper time, will introduce that report and other
25 reports by the Van Ginkel Associates, together with a
26 witness from that firm, who will respond to it. Now
27 this, to us, seemed to be the most useful way in which
28 that report could be treated. It's not that it's
29 being ignored. We are not relying on it, nor are we
30 advancing it as part of the evidence before this
Commission.

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Cross-Exam by Bell

1 MR. BELL: Well, perhaps I
2 could ask Mr. Marshall if he agrees with that?

3 MR. MARSHALL: I take it
4 you're asking me, Mr. Bell, whether or not I am
5 prepared now to give an undertaking that Arctic Gas
6 will call a representative from Van Ginkel Associates
7 to speak to the report. The answer is I'm not
8 prepared to give that undertaking now. We haven't
9 finalized the various witnesses who will be called
10 by Arctic Gas in the socio-economic phase. I think it's
11 clear though that if we chose not to call any
12 particular witness that you think we ought to, you
13 can ask that they be subpoenaed.

14 MR. COMMISSIONER: Mr. Bell,
15 if Mr. Ballem doesn't introduce the Van Ginkel report,
16 and if Mr. Marshall is not prepared to say now that he
17 intends to do so himself, you are certainly free to
18 raise matters that are dealt with in that report, but
19 there isn't much point in trying to refute the report,
20 if indeed that is your intention, if no one is relying
21 on it. But if there are materials in the report that
22 you think is vital^{to}/be brought out, you can put them
23 to these witnessess, so long as they bear on their
24 whole area of knowledge and expertise, which is the
25 socio-economic impact of the gas plants and the
26 related activities.

27 MR. BELL: Yes, that seems
28 about as far as I can go today anyway. Well, returning
29 to your prepared evidence then, sir, I'd like to refer
30 you to page 7. In the large paragraph in the middle

Sider, Tod, Wopnford
Cross-Exam by Bell

1 there you say that:

2 "there is an increasing and irreversible trend
3 away from the traditional life on the land, and a
4 rapidly growing demand for a more stable wage based
5 economy."

6 WITNESS SIDER: Yes sir.

7 Q And if I could also refer
8 you to page 37, in the 'Response To Information Requests',
9 Item 3 on that page, it concerns an assessment of the
10 benefits and costs of the project, and the responses
11 on the basis of studies of lifestyles of northern
12 natives. It is evident there is consensus on the fact
13 that there is in progress an irreversible trend toward
14 the acceptance of a wage based economy, particularly
15 with respect ^{to} the younger, better educated people. Can
16 you tell me what studies ^{are} you/ refering to here?

17 A That would, I believe Mr.
18 Bell, not in specific words but in general terms
19 relate to comments that have been made by Dr. Hobart,
20 particularly as they relate to the oppermine project.

21 Q Is that all you can think
22 of?

23 A That's certainly, in terms
24 of referencing to studies, yes sir.

25 Q Well you say there's a
26 trend away from life on the land. Does this mean that
27 there's a decreasing use of the land in the traditional
28 way?

29 A I don't believe so, and I
30 think as again, Dr. Hobart in giving testimony here

Sider, Tod, Wopnford
Cross-Exam by Bell

1 the other day suggested, that living off the land, per
2 se, the life style associated with ^{it} /is still very much
3 going on.

4 Q Assisting your prepared
5 evidence, you say that there is a rapidly growing
6 demand for a more stable wage based economy, in the
7 'Response To Information Request', it says that there
8 is a trend toward the acceptance of a wage based
9 economy. Is there a difference between demand and
10 acceptance here?

11 A I'm not too sure that
12 there's any significant difference.

13 Q In your view they're
14 synonymous.

15 WITNESS WOPNFORD: I think that
16 would be acceptance as well as demand, I think.

17 Q Demand is a little more
18 than acceptance, isn't it?

19 A Perhaps a little stronger.

20 Q Page 4 of your direct
21 testimony, the middle paragraph, you say,

22 "We believe it is important to mention that those
23 northerners who wish to continue harvesting the land
24 and sea, will not be hampered by the proposed
25 production plant facilities."

26 WITNESS SIDER: Yes sir.

27 Q Can you refer me to your
28 source for that statement?

29 A Well, I think that that
30 would fall under the area Mr. Bell, of the environmental

Sider, Tod, Wopnford
Cross-Exam by Bell

1 committee, and reference directly to the Slaney Report.

2 Q Is that the one that's
3 been referred to here, previously?

4 A Yes sir.

5 Q And if I could refer you to
6 Page 1 of your testimony. The last sentence in the
7 large paragraph in the middle, you say,

8 "The production and processing stage of our
9 operations will provide the first major opportunity in
10 this region to advance to the next step in this
11 transitional process, that is the opportunity of long
12 term, permanent employment with continuing opportunities
13 for seasonal employment."

14 A Yes sir.

15 Q I take it that the process
16 you're talking about here is the integration of the
17 native people into the wage economy?

18 A That's part of it, yes.

19 Q Is there any other part?
20 What else is there?

21 A I suppose obviously connected
22 with the wage economy is the employment side of it.

23 Q You mean specifically the
24 employment in the hydrocarbon industry?

25 A Yes sir. And, you know,
26 there's no question that as a result if production
27 facilities are permitted to proceed, there will be
28 spinoff effects as a result of that.

29 Q Perhaps we could just go
30 into that for a moment. Are we to infer from your

Sider, Tod, Wopnford
Cross-Exam by Bell

1 evidence that the hydrocarbon developments will bring
2 a stable economy to the north?

3 A I'm not suggesting that
4 we're prepared to take credit for the stability of the
5 economy in the north, we're simply implying that it
6 would have a very positive effect, and certainly it
7 would be one of the major contributors to a stabilized
8 economy in the north.

9 Q Can you see secondary
10 industry, any kind of other industry coming in?

11 A I think that's very possible.
12 I think to a large measure, as has been suggested, I think
13 that will depend to a great degree on what the people
14 up here want to ^{have} happen, in terms of are they prepared
15 to develop businesses, are they interested in having
16 certain businesses located within their communities?

17 THE COMMISSIONER: Mr. Snider,
18 Mr. Bell, I don't know what he's getting at, but the
19 kind of secondary industry that I thought he was
20 getting at, the secondary industry that would take
21 advantage of the gas and using it in ^{the} form of energy from
22 raw materials result in a buildup of manufacturing and
23 so forth. Let me ask you about that, because we asked
24 Mr. Blair, the president of Foothills, about that. He
25 gave evidence for something like three or four days,
26 and on that subject he said, telling us the facts of
27 life as I recall, he said, look, the object of
28 building a pipeline is to get the gas out of the north,
29 into the south, and a buildup of industry will occur
30 in southern Canada. He said that in Alberta, they had

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1 been trying, the other gas producers, for a quarter of
2 a century, to establish manufacturing industries in
3 Alberta which would make use of the gas, and^{that} they had
4 only succeeded recently with apparently the decision to
5 develop petro-chemical plants and so forth. So, he
6 said he will not, as far as he could tell, and I
7 thought he was being extremely fair and frank about it, and
8 not seeking to pretend that for those who would wish it,
9 this would become another Ruhr Valley, or anything
10 that sort. He said you won't get that, "We want to get
11 the gas out of the north, and people will use it in the
12 south. This term "secondary industry" is so expansible
13 that I just wanted to know whether you would agree with
14 Mr. Blair or disagree with him. If you disagree, I
15 would like to hear a little more about it. This
16 business that you dealt with here I quite understand
17 about spinoffs, gravel hauling, sawmills, house
18 prefabrications, bakeries, I quite understand that.
19 But^{it's} the other area that I wondered if you comment on?

20 WITNESS SIDER: I'm going to
21 ask Mr. Wopnford.

22 WITNESS WOPNFORD: I think
23 generally that we would agree with Mr. Blair there.
24 One of the problems, of course, is the population base
25 sort of
for any /manufacturing industry-

26 Q 5,000 people.

27 A. Yes. You wouldn't have
28 that here ; normally industry would be attracted by
29 that sort of thing. There could be some other extractive
30 industries
/in the way of mining or something that may become

1 viable with the energy source, passing by it or
2 something like that.

3 THE COMMISSIONER: Mr. Blair
4 was asked to comment on that and he was a little
5 dubious about that too, oddly enough. At any rate, you
6 might examine his testimony. It was quite interesting,
7 and certainly I was grateful to him for not painting
8 the kind of rosy picture that, if it is the kind of
9 picture that people would regard as rosy. Anyway,
10 carry on, I'm sorry to interrupt you.

11 A Really I'm not an expert
12 in these matters. One thing that would occur to me
13 with respect to the mining is that I think there would
14 have to be developed a better transportation system
15 than there is already, and that isn't in place.

16 THE COMMISSIONER: By rail or
17 by ship?

18 A By rail, or^{by} barging being
19 seasonal^{possibly,} or by road. I guess that's really all the
20 comment I have, as Mr. Blair^{said, it's} is not going to be the
21 Ruhr Valley of Canada, I'm sure. Certainly in the
22 short term. There has been more of that I think in
23 Russia, but I believe that the population is handled
24 by government control, in other words, they are moved
25 into the area to accomplish those things.

26 Q Well, in Russia they're
27 not as concerned as we are about the operations of the
28 market.

29 A That's right.

30 Q That's just a word used in

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1 a neutral sense for the purposes of this discussion.
2 Well, I interrupted you Mr. Bell, as I frequently do.

3 MR. BELL: Well that's what
4 I was getting at sir. If I could just continue on on
5 Page 1, in the last paragraph, where you say "it is the
6 position of the producers that long term employment
7 is consistent with the objectives of formal and informal
8 education programs, developed by the Territorial and
9 Federal Governments, and our industry." I take it by
10 that, you include the primary and secondary education
11 system.

12 WITNESS SIDER: Yes sir.

13 Q Do I understand from this
14 that it's one of the objectives of that system to
15 integrate native people into the wage economy?

16 A I would hope it's their
17 intent.

18 Q Well can you tell me then
19 is there any evidence that there's a demand by native
20 people for an education system whose objective is to
21 integrate their children into a wage economy?

22 A Well I think we would, Mr.
23 Bell, read perhaps not in so much again the word "demand"
24 creates a problem, but certainly we are continually
25 being approached by native people who are interested in
26 employment both on a seasonal and on a long term basis.
27 Certainly in terms of what's been evidenced by the
28 Nortran Program, there is very much of an interest on
29 the part of the native people, to get involved and be
30 given opportunities for promotion within the industry.

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1 Q The reason I'm asking this
2 question is you say there's a demand for opportunities
3 in the wage economy and that one of the sources of that
4 demand is as a result of the policies of the education
5 system. I'm just wondering whether you can say that
6 people really have a choice, if that education/^{system} was not
7 one they demanded.

8 A I'm not too sure, sir, what
9 your question is.

10 THE COMMISSIONER: I don't think it's a
11 question, it's a point that Mr. Bell is entitled to
12 make. But these are large issues that/^{the} Inquiry will
13 have to make up its mind about, and I have been
14 listening to the native people in evidence given in
15 their communities for quite a few months on these
16 very questions. I don't think I'm going to be helped
17 greatly by Mr. Sider, Mr. Wopnford and Mr. Tod, and
18 even if they recanted, said "no they don't want to be
19 in the wage economy," it's obvious, I don't think that
20 would cut any ice with me either, Mr. Bell.

21 All I'm saying is that I think we're going beyond
22 the range of expertise of these gentlemen. Dr. Hobart
23 was, I think, in a position to discuss the matter
24 in a way that was helpful to the inquiry.

25 But these questions "o the native people want to
26 give up their traditional life and enter the wage economy",
27 that's something that they've had a lot to say about,
28 and the employment, as a matter of fact, that they have
29 been involved in, bears on the question; but whether
30 that occurs as a result of the educational system,

1 or want of other opportunities,^{or}/real desire on their
2 part; these are difficult questions.

3 With all respect to these gentlemen, I don't
4 think they're going to be of much help to us on that.
5 If you think they are --

6 MR. BELL: No, I just thought
7 some of the statements in the evidence indicated they
8 might be helpful to us.

9 COMMISSIONER: Well, the
10 statements in the evidence, that's their case. They're
11 putting their best foot forward and no one can blame
12 them for that. Everybody does at this Inquiry.

13 MR. GOUDGE: I notice sir that
14 it's almost 12:30. I wonder if this might be an
15 appropriate place to break for lunch?

16 THE COMMISSIONER: Right. 2:00?
17 Oh, just before we break, I wanted to ask you about
18 this response to Mr. Hancock's group.

19 A Yes.

20 THE COMMISSIONER: And Mr.
21 Mainland of Imperial writing to Mr. Hancock on July 22,
22 this letter appears at the beginning of the volume.

23 A Yes sir.

24 THE COMMISSIONER: It said, in
25 the second last paragraph,

26 "Your committee indicated", that is, Mr. Hancock's
27 committee, "your major area of concern to be the
28 processing plants and their directly related activities,
29 have
and we/addressed the concerns in that light. However,"
30 this is Mr. Mainland speaking, "it is important to

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1 recognize, as was pointed out in our submission, that
2 the associated exploration, development, and production
3 operations of the industry will provide the major
4 employment opportunities."

5 That is, exploration,
6 development and production operations of the industry,
7 as opposed, as I understand this, to the processing
8 plants and the activities related to the processing
9 plants. I don't altogether follow that, but he seems
10 to be saying ^{then} /the jobs ^{are} /on seismic crews, and on oil rigs,
11 and not at the gas plants. Am I following that?

12 MR. SIDER: It really is
13 related in terms of numbers of jobs.

14 THE COMMISSIONER: Well of
15 course, numbers of jobs, but that's what he's saying,
16 isn't it?

17 A Yes.

18 MR. GOUDGE: I don't understand
19 that sir, I'm confused now. Exploration I understand;
20 development and production, how does that distinguish
21 itself from --

22 THE COMMISSIONER: That's why
23 I asked the question.

24 MR. GOUDGE: I didn't understand
25 the response sir, forgive me.

26 WITNESS WOPNFORD: I believe
27 Mr. Mainland - I'll check this with Mr. Mainland at
28 noon - but I believe he's talking about the development
29 wells that will be drilled during that period. There
30 will be a larger number of employees on the development

1 drilling, for instance, than there would be in the gas
2 plants.

3 THE COMMISSIONER: Well, what
4 concerns me is this. We're looking - this Inquiry's
5 job is to look at the whole employment picture on the
6 pipeline, in terms of expenditure and employment, it is
7 a much bigger project, at least it appears to be, than
8 the gas plants and so on; but we have the problem with
9 the pipeline^{that} once it's built, what is there left in
10 terms of employment? We want to be able to tell the
11 government what it appears the picture will be.

12 Now, once you've built those
13 gas plants, and once you've completed the development
14 wells, and connected it up to the pipeline, then we've
15 been told from an environmental point of view, it's
16 sort of a very peaceful kind of scene, and the pipeline
17 is equally quiescent, and all that is happening is that
18 gas is running to southern Canada, and everybody's
19 happy. What I'd like to know is what's left here, in
20 terms of jobs, once you've connected up to the pipeline
21 and you've done your development drilling? I realize
22 there will be further exploration drilling going on
23 presumably, that's the object, but what is left in
24 terms of jobs? You might think about that over the
25 lunch break and we can discuss it then.

26 (PROCEEDINGS ADJOURNED TO 2 P.M.)
27
28
29
30

1 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

2 MR. BALLEM: Mr. Commissioner,
3 I believe that over the lunch break the panel has had
4 an opportunity to consider the questions that you raised
5 concerning Mr. Mainland's letter and possibly they could
6 respond to that now.

7 WITNESS SIDER: Thank you. It
8 would be the feeling of our group, Mr. Commissioner,
9 that the questions that the assessment group from Yellow-
10 knife, had asked, response to, had in fact, zeroed in
11 primarily on the operation section of the proposed de-
12 velopment for the producers and the significance of that
13 particular paragraph was simply to point out to the
14 assessment group that the staffing that would be required
15 or anticipated, for the operation section, only in fact
16 represented some 10% of the total number of jobs. The
17 number of jobs as indicated on our figure 10 in our vol-
18 ume 6, indicated something like 160 jobs for the opera-
19 tions job and that projection, you know is certainly not
20 definitive in its terms. It may be as high as 180, cer-
21 tainly 160 is a good figure to zero in at this point of
22 time; but the twelve hundred jobs, which is indicated
23 under drilling and logistics, would include such things
24 as exploration drilling, further island construction,
25 development or in fill drilling, workover, transporta-
26 tion and logistics, and seismic, and so therefore, I
27 thought it was important, that we should indicate this
28 to the committee.

29 THE COMMISSIONER: What are
30 workovers?

1 WITNESS WOPNFORD: It's the re-
2 working of the well during its production period. I be-
3 lieve it was testified they would expect one or two work-
4 overs per year, if I remember correctly.

5
6 CROSS-EXAMINATION BY MR. BELL

7 Q It's with some trepidation
8 that I refer to Van Ginkel again, but I'd like to read
9 you a short passage from this report and ask you if you
10 would agree with it. It's on page 12, and I quote:

11 "In the final analysis, the impact of any event
12 depends in large measure on the determination to
13 maximize new opportunities. The event of itself
14 does not dictate whether advantage or disadvantage
15 will accrue to the people and the community. This
16 is dictated by the reaction to the event".

17 Would you agree with that state-
18 ment?

19 WITNESS SIDER: I think we would
20 agree Mr. Bell.

21 Q Would it follow then, that
22 a negative reaction to an event could result in a failure
23 to realize the potential advantages of that event?

24 A Would you repeat the ques-
25 tion please, Mr. Bell.

26 Q Would it follow, that a
27 negative reaction could result in a failure to realize
28 the advantages of a given event?

29 THE COMMISSIONER: That's a
30 flaw in Newton's first law.

1 WITNESS WOPNFORD: You're speaking of the northerners that may or may not become involved at their choice, is that--

2 Q Well, I would like to get
3 that yes, I was just wondering if I can take you that
4 far. That a negative reaction could result in the failure
5 to realize potential advantages?
6

7 A I would think that that
8 would be true of almost any particular operation or
9 opportunity that anyone was offered. I think we must
10 relate it though to the number of people who have that
11 negative approach to it, and I'm not sure that because
12 some people in an area have a negative feeling that it
13 necessarily follows that all of them will, and therefore
14 it would only be those people who do have that negative
15 feeling would probably not benefit.
16

17 Q Well, to follow up on this
18 I would like to quote an excerpt from the testimony of
19 Mr. Eric Gourdeau, which appears at page 16,420 of the
20 transcript and I asked him if he thought that the interest
21 of natives of the Northwest Territories would be
22 prejudiced if permission to build the pipeline was given
23 before a land claims was settled, and this was his
24 answer: He said,

25 " I think that if a permit to build the pipeline
26 because this is the big enterprise that is under
27 question now; if a permit would be given without
28 previous recognition to their rights and previous
29 settlement of their rights to their satisfaction,
30 would necessarily provoke a negative reaction on

1 their part and would seriously hamper the possibility
2 for them to evolve as they should in our society".

3 Now can you see that as having
4 any influence on the impact of the proposed development?

5 A I'm really not familiar
6 with that quotation, nor with Mr. Gou--

7 Q Mr. Gourdeau.

8 A Gourdeau. I'm afraid I
9 couldn't respond to that.

10 Q Does anybody else on the
11 panel have any comment to make on that?

12 WITNESS SIDER: No comment.

13 Q Turning then to page 5 of
14 your prepared testimony, in the middle paragraph there
15 you refer to the fact that it will be necessary to re-
16 cruit the majority of the operating staff from the south
17 and you say, "it is anticipated however, that some of
18 these workers eventually may elect to live in northern
19 communities, rather than commute to Edmonton," and I'd
20 like to know whether you consider that a benefit flowing
21 from this project.

22 A The benefit to
23 who?

24 Q To the north and particu-
25 larly to the people that I represent here, native people
26 Indian people.

27 WITNESS WOPNFORD: We go on to
28 say in the paragraph that we can phase this according
29 to the wishes of the community and others there, so I
30 would expect that we would hear from the people of Inu-

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1 vik or other communities that would tell us whether they
2 think it is a benefit or not.

3 Q I appreciate that it can
4 be done. I'm wondering if you could cite me any instan-
5 ces in the north where that has happened?

6 THE COMMISSIONER: Where what
7 has happened?

8 MR. BELL:
9 Q Where southerners are
10 phased out, as they say here.

11 WITNESS SIDER:
12 A Is it a question concern-
13 ing the consultation or the--

14 MR. BELL:
15 I'm just wondering if this
16 is going to be another first, or is it, is there any ev-
17 idence that this will work?

18 THE COMMISSIONER: Let me put
19 it to you. I think that this is a point of some conse-
20 quence. You say the operators will have to be recruited
21 from the south because these are skilled positions.
22 you expect that they will in the first instance, be comm-
23 uting from Edmonton. You say that they may decide to
24 settle down here in Inuvik, or wherever, but you also
25 suggest that they might be phased out and northerners
26 would replace them in those skilled positions. As
27 I understand Mr. Bell, he's saying well, can you point
28 to any other development that has occurred in the North-
29 west Territories where skilled positions initially, were
30 initially occupied by southerners and then they were
phased out and northerners replaced them. That's his
point, as I understand it.

WITNESS WOPNFORD: I don't know

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1 of any example, sir.

2 WITNESS SIDER: I think perhaps
3 in a modified way, at this point of time, that we've had
4 evidence of it already in our operation. We certainly
5 have a certain number of jobs in our Swimming Point oper-
6 ation which previously have been filled by southerners
7 and ^{are} now filled by northerners and this is as a result of
8 the capability having been demonstrated and acquired
9 by northerners and therefore they are now filling those
10 positions.

11 THE COMMISSIONER: Could you
12 name some job categories?

13 A Thinking in terms of
14 material clerk positions that are filled at the Swimming
15 Point base camp. The position of foreman of labour, we
16 have a mechanic; these are positions, skilled positions
17 that were formerly held entirely by southerners.

18 THE COMMISSIONER: Right.

19 WITNESS TOD: Well I guess that
20 the other portion of the answer to this question is that
21 we have embarked upon a very comprehensive training
22 program through Nortran and in so doing we are providing
23 the opportunity for these people to get the training and
24 move into these jobs. And that's the basis on which we
25 can say that that is our intention to proceed along these
26 lines. In fact, we have started to accomplish this al-
27 ready.

28 WITNESS WOPNFORD: I might just
29 add one more thing, while it certainly doesn't con-
30 cern the north, it's a parallel situation, in that I

1 think in almost all instances in our gas plant operations
2 we have moved people, you know, skilled gas plant people
3 into, for instance the town of Pincher Creek or some-
4 thing. Local people then come into the plant and are
5 trained, and are gradually phased into the operation.
6 We always prefer to have local people ^{really,} on any of our oper-
7 ations. And that appears quite regularly in our south-
8 ern operation. I wouldn't see it being any different
9 here.

10 MR. BELL: Well, you say that
11 this can happen and there seems to be some evidence that
12 it can. Could I ask you then to raise it from a level
13 of a possibility, to a certainty. Are you prepared to
14 do that?

15 A We are prepared to make
16 our best efforts to involve the people in these commun-
17 ities in the north and subject to their wishes, desires
18 or aspirations then I think it can be considered it will
19 be a success.

20 Q At page 7 of your evidence
21 you talk about economic and cultural opportunities, and
22 at the end of that large paragraph you say,
23 "we suggest that development of the hydro carbon
24 industry will provide such opportunities. We see
25 no other development on the horizon that could all-
26 eviate employment and income problems in the area"

27 I would just like to put this
28 to you and get your comments. This is an excerpt from
29 a statement made by Richard Nerysoo, the vice-president
30 of the Union Brotherhood at the Science Counsel Seminar

1 on Northern Development in Calgary on January 15th, and
2 he said:

3 "If some of our people take jobs with the oil in-
4 dustry, it is because the alternative today is
5 likely to be unemployment and welfare. That does
6 not mean that they would not choose jobs in their
7 communities if community-based development was a
8 reality. The kind of land settlement we generally
9 want would allow that community to base pattern of
10 development."

11 In light of that would you be
12 willing to modify the last sentence in that paragraph?

13 WITNESS SIDER: How would you
14 like it modified Mr. Bell?

15 Q Well, you say that you see
16 no other development on the horizon, and I was just won-
17 dering if perhaps, you might consider what Mr. Nerysoo
18 just said as another type of development, an alternative
19 to the development of the hydrocarbon industry?

20 A Well, I could just make one
21 comment, concerning people from Coppermine as a for in-
22 stance. One of the individuals that we had coming out
23 on a regular basis from Coppermine and working over here
24 at our Swimming Point operation, was obviously one of the
25 individuals^{who,} from our standpoint, showed all of the capa-
26 bilities and all of the abilities of not only doing the
27 job that he was assigned at the time, but progressing on
28 to more responsible positions. He was an excellent wor-
29 ker and was thought highly by all the supervisors. We
30 certainly had anticipated that we would be able to move

1 him up into a higher level and suddenly he made the dec-
2 ision that he would prefer to go back and accept a pos-
3 ition within the town structure, within Coppermine. Which
4 we encouraged him to do, because one of the things that
5 we had talked about with the town counsel of Coppermine
6 is that we did not want to deplete their manpower re-
7 source to the jeopardy of the community of Coppermine.
8 It was necessary to carry on those kinds of functions
9 within the community to keep it viable and to keep it
10 progressing, so that we were delighted that he came,
11 hopefully picked up some skills, which he could then take
12 back and apply to the community of Coppermine.

13 Q In the previous sentence,
14 you say, "that," people of the area that have chosen to alter
15 their traditional means of livelihood, must be afforded
16 a prospect of economic opportunity and social and cultur-
17 al security, equivalent to that offered southern Canadians."

18 Well, one of the concerns of my
19 client is that they'll end up in the situation that
20 natives in southern Canada now find themselves. I
21 was wondering if you think that this development can pro-
22 vide any assurance that that won't happen?

23 WITNESS WOPNFORD: I believe
24 that's the object of the thrust, with respect to our
25 training program and our employment programs up here.
26 That in fact the people here are going to be given an
27 opportunity to participate that they may not always have
28 been given in the south.

29 THE COMMISSIONER: Well, Mr. Bell,
30 where is this getting us? You're entitled to bring for-

ward these points, but it seems to me you are using these gentlemen as a bit of a backboard to bounce these propositions off. In Nature Canada, July-September, 1972, Mr. A. B. Yates, the Director of Northern Economic Development, in the Department of Indian Affairs and Northern Development, said, "the priorities the government had assigned to the attainment of its objectives in the north, were first to stimulate and strengthen all people programs in the north. 2. To maintain and enhance the natural environment through intensified ecological research wildlife conservation and the establishment of northern national parks. 3. To create jobs and economic opportunities through the encouragement and stimulation of development of renewable resources, light industries, and tourism. 4. To encourage and assist strategic projects in the development of non-renewable resources and in which joint participation by both government and private interests is generally desirable. 5. To provide necessary support for other non-renewable resource projects of recognized benefit to northern residents and Canadians generally." That is apparently all to be found in a policy paper, developed by Mr. Chretien and issued March 28th, 1972 and that remains a government policy in the north, as I understand it. The government in that paper put economic opportunities through development of renewable resources, light industries and tourism, ahead of strategic projects involving the development of non-renewable resources, if the Native Brotherhood, excuse me, the Indian Brotherhood and COPE or one or other of them, or somebody else in phase four brings

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1 forward proposals that would achieve those objectives
2 of the government, it may be they would receive them fav-
3 ourably. I just don't see that it's getting us very
4 far to say to these gentlemen, well look, the Indian
5 Brotherhood wants a settlement of the land claims. With
6 the right kind of settlement they could develop local
7 initiatives and local projects within communities that
8 would provide employment and they would prefer that to
9 working in the oil and gas industry. That's what you're
10 saying and these gentlemen aren't in a position to argue
11 with you, it seems to me. I don't want to cut you off
12 but,--

13 MR. BELL: I just thought that
14 they might want to argue with me. Well, I'm content to
15 leave it there sir, and move on.

16 Q
17 I'd like to discuss for a mom-
18 ent some of your testimony concerning the Nortran pro-
19 gram. You say that there are now 107 positions available
20 and that 93 northerners are now involved.

21 WITNESS SIDER: Yes sir.

22 Q And that leaves, accord-
23 ing to my calculations, 14 vacancies. I was just won-
24 dering if you could explain that.

25 A I suppose, the best way of
26 explaining it is that from any given week, any given
27 month, the number of northerners who are in fact employed
28 on those particular training programs will vary. The
29 opportunity has been afforded, I believe by our testi-
30 mony, to date, 194 natives, northerners and some of them
come for varying periods of time. I think it's fair to

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1 suggest that I suppose, they have been as short as one
2 week, and they have been as long as, well, since the in-
3 ception of the program, and therefore, the number 94,
4 simply says that at that point of time, there have been
5 14 of them leave from those particular training positions.

6 It is interesting to note that
7 frequently, those who elect to leave the program, fre-
8 quently come back and approach Nortran or approach the
9 companies' direct, after periods of time and ask to be
10 re-entered into the program.

11 I think one of the learning pro-
12 cessess that we in Industry have to go through is to rec-
13 ognize that the immediate adaptation by them of working,
14 training, does not get accepted immediately. We have to
15 recognize that when people terminate, it doesn't necess-
16 arily mean that they will not return. There have been
17 those that have not come back on the program, but there
18 are a number that have returned to the program. As time
19 progresses we hope that number will continue to increase.

20 Q But the actual number of
21 positions has shrunk since 1974 hasn't it?

22 A No, I don't believe so.

23 Q I don't have the reference
24 exactly, but in your socio-economic assessment, volume
25 6 it says that in 1974 there were 120 positions.

26 WITNESS WOPNFORD: We had, that
27 correct, I had forgotten about it. We did have, one of
28 the pipeline contractors or two of them, I believe it
29 was, had offered some training positions for pipeline
30 construction during the summer period, and I believe that

1 number was taken at that time, and they were only there
2 during the summer. Negotiations are presently in progress
3 for that program to continue again this summer, so, I
4 think that's a discrepancy in the two numbers, if I re-
5 member correctly.

6 Q Have you kept any record,
7 or made any survey of the reasons why people leave the
8 program?

9 WITNESS SIDER: Dr. Hobart,
10 undertook on behalf of Nortran, a study, I think perhaps,
11 about a year ago, Mr. Bell, to attempt to assess the
12 reasons for terminations. That report, I'm sure will be
13 entered in evidence in phase four. It was difficult. I
14 know that Dr. Hobart had great difficulty in being able
15 to track down each of the individuals that had left. My
16 personal experience with the trainees has been that fre-
17 quently the reason for their termination has been loneli-
18 ness. They have found it difficult to make the transi-
19 tion in terms of environment. That they have been where
20 ever possible put into work locations where it would be
21 very close to the community for instance, in which they
22 left, but loneliness has been a big portion of terminations.

23 THE COMMISSIONER: Have you got
24 the figures for the total number of persons who have en-
25 tered the Nortran program and the numbers who have com-
26 pleted the program and the numbers who have dropped out
27 for one reason or another.

28 A Those numbers
29 are available Mr. Commissioner. The total number at the
30 time we prepared the evidence, was 194 that had entered

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1 the program. There is in fact, no one, certainly as far
2 as our company is concerned that has completed the pro-
3 gram, inasmuch as the program, is quite extensive. In
4 terms of an operator, in a gas plant, as an example, I
5 would estimate that as an average, it would take an in-
6 dividual, 5 to 7 years, and when I say an individual, a
7 southerner, who would come, start commencing his employ-
8 ment in a gas plant as an operator, coming to that job
9 with a fourth class steam ticket with a Grade 12 educa-
10 tion, embarking on the "in house" programs that each of
11 the companies' run, it would take probably 5 to 7 years
12 to become an operator. Now, a number of the individuals
13 that we have, at the present time, training in our gas
14 plants, come to us with less than grade 12 education.
15 We found that there was a need to upgrade them in cer-
16 tain academic areas in order to__

17 THE COMMISSIONER: Are these
18 Nortran people now, or __

19 A Yes, well they are Gulf
20 employees.

21 Q Generally.

22 A No, I'm talking the Gulf,
23 Nortran employees.

24 Q Right.

25 A We have, in terms of accep-
26 ting them in as trainees, downgraded our normal entry re-
27 quirements; in other words, they come in perhaps with a
28 grade nine or grade ten education. So in order to even
29 get them to the base level, where you can initiate some
30 of this basic operator training, it's been necessary to

1 upgrade them, for instance, in chemistry and mathematics.
2 And that's been accomplished through various academic
3 places, in Calgary, Edmonton, Fort Smith.

4 Q Well you've had 194 people
5 enter the program, no one has completed the program, for
6 reasons that I think you've made clear.

7 A That's right.

8 Q How many of the 194 are
9 still in the program? Is that the figure --

10 A That's the number that
11 signed.

12 Q 94

13 A 94, 97

14 Q In what length of time did
15 you contemplate when the program was undertaken, that
16 a person should be in the program, in order to assume a
17 position of responsibility within the industry?

18 A Well, I would suggest that
19 they assume a position of responsibility immediately.

20 Q Right, I follow that, all
21 right. You said that no one has completed the program,
22 well how long did you think it ought to take for some-
23 one to complete the program when you started it off?

24 A Certainly a minimum of
25 five years.

26 Q And what's the average
27 length of time that each of the persons who has entered
28 the program has been in the program. Are you able to say --

29 A I'm sorry sir.

30 WITNESS WOPNFORD: I think maybe

1 you know, the training program is a bit misleading, ^{I think} in
2 the way you're questioning this, that-

3 THE COMMISSIONER: Well, we're
4 working in the industry, from day one, as I understand
5 it.

6 A That is correct, and I
7 would say that they are continuously in the program for
8 as many years as they are capable of progressing, or
9 something else. Now, with respect to some of the addit-
10 ional benefits, with the housing and so on, we consider
11 that at the time we do have development in the north
12 and so have positions for these people in the north,
13 they would be offered the opportunity to return to the
14 north in those particular positions for which they're
15 qualified. If at that time, they would rather remain in
16 the south and become permanent employees of the various
17 companies, those kinds of benefits, they would be handled
18 in the way of all other southern workers. If they are
19 getting special benefits now, those special benefits would
20 cease at that time. They would become just a part of
21 our work force like anyone else.

22 THE COMMISSIONER: Just as a
23 matter of interest, the young man that was here Saturday
24 Paul Koe, he said that it took ten years to become a
25 driller. Did he say ten years, or did he say five?

26 WITNESS SIDER: I think he said
27 ten years, I believe sir.

28 Q Is that so?

29 A I think that is very rea-
30 listic. You may, you have to take a look at the organ-

Sider, Tod, Wopnford
Cross-Exam by Bell

1 ization, I suppose, of a drilling crew, and we have sever+
2 al individuals that we have started off on the drilling
3 rigs. They start off working for, one or two years as a
4 rough-neck, which really is the bottom job, getting aqua-
5 inted with the facilities, the operation, learning to
6 work as a team member. Learning to accept the fact that
7 being part of that team requires that they follow the
8 shift schedule by that, two weeks in, one week out, re-
9 turning regularly on those shift requirements. If an
10 individual is interested then they have the opportunity,
11 and we have had, done this with a number of trainees,
12 that they would go down to Edmonton and attend the pits
13 course, where they would take the next level of learning,
14 which is motorman. Satisfactorily completing that, would
15 return and at an appropriate time move up to the motor-
16 man classification. Responsibilities becoming increas-
17 ingly greater. Perhaps, after a year or two years of that
18 they would move on to the next position of derrickman or
19 floorman and ultimately, with continual course attendance,
20 with practical on-the-job training, the opportunities to
21 become a driller are there. Certainly, then the oppor-
22 tunities present themselves and go beyond that of driller.
23 The position of tool push, which then becomes a first
24 line--

25
26 THE COMMISSIONER: Tool what?

27 A Tool push. Which really
28 is the person that's going to oversee all of the drill-
29 ing operation on that rig, and so that's the first line
30 of real supervision, and hopefully we'll have native

1 people that will, within time fill those categories.

2 The one point that I think is
3 perhaps, important to identify, I think Mr. Mateyka yes-
4 terday, in speaking on behalf of the Steering Committee
5 for Nortran, indicated that what we were really concerned
6 with, was career development and career training for
7 these people, and it was certainly never our intent nor
8 the intent of any those participating in the Nortran pro-
9 gram, but because an individual starts off in the drill-
10 ing aspects of the industry, that he would necessarily
11 stay there. That there are opportunities for him to
12 move in a number of directions. We could certainly see
13 ourselves and have so in the past, found individuals that
14 have suddenly identified another area in which they
15 thought they would have greater interests, we would agree
16 with them on the assessment of their performance, that
17 they should be given an opportunity in another area and
18 they've been moved off in those areas.

19 THE COMMISSIONER: Thank you.

20 MR. BELL: Q Yes. Does Imperi-
21 al Oil's experience at its Norman Wells' operation
22 give confidence that the native people will take jobs in
23 the oil and gas industry.

24 WITNESS TOD: Yes, I think it
25 does, in that, we have a long standing employee there who
26 is our foreman of production, and we have a number of
27 people who return each summer to our operation to fill
28 in on the types of jobs such as barging and things like
29 that that are seasonal, so, we feel that they will become
30 involved.

Sider, Ted, Wopnford
Cross-Exam by Bell

1 Q Can you tell me what prop-
2 ortion of the work force there, is native people?

3 A Well, that's like at any
4 location, it's the function of the time of year. In the
5 summertime--

6 THE COMMISSIONER: You have per-
7 manent employees at Norman Wells

8 A That's correct.

9 Q Who work year round?

10 A That's correct.

11 Q In the refinery.

12 A Okay.

13 Q Well, how many of those
14 are native people?

15 A There's, we have the one
16 gentleman, that I spoke of, who is a native.

17 Q Out of how many

18 A Out of about, I think it's
19 in the order of twenty-five.

20 Q How many?

21 A Twenty or twenty-five, in
22 that order of magnitude.

23 Q Someone is
24 closing a door there. I didn't hear you.

25 A Out of a number of approx-
26 imately twenty-five.

27 Q M-hm.

28 A Now, what like, I suggested
29 earlier that does not include the people that come back
30 regularly in the summer, summertime which is--

Sider, Tod, Wopnford
Cross-Exam by Bell

1 Q In the summer. To work in
2 the barrel distributing plant and that sort of thing.

3 A And with our tug
4 operators, oil shipment, that type of operation, and we
5 have probably--

6 Q And what kind, it's my
7 fault.

8 MR. BALLEM: He may be a little
9 close to the microphone.

10 A Sorry, okay, we have a
11 barging operation, where the oil is produced out on the
12 island. It's put into tanks there and then barged across
13 during the summertime as opposed to the wintertime when
14 the pipeline is laid across the ice and the oil is pumped
15 during that period of time.

16 During the summertime, we have
17 tug operators and people working on the barges, moving
18 that oil in addition to the work that we have in prep-
19 aring the barrels in the shipping of the product out.

20 THE COMMISSIONER: M-hm. Yes.

21 MR. BELL: Mr. Tod, would you
22 have any record or any study of the proportion, the length
23 of time, the average stay of native people at Norman
24 Wells over the last ten years or--

25 A I don't believe we have a
26 study, no.

27 Q The supervisors' seminars,
28 which you mention on page three of your testimony, you
29 say that they have been supported by the Territorial
30 Government, the native groups, such as the Indian Brother

Cross-Exam by Bell

hoods of the Yukon and Northwest Territories etc., and concerning the Indian Brotherhood of the Northwest Territories, what form did that support take?

WITNESS WOPNFORD: I believe that they have provided resource people to talk to the supervisors with respect to the problems that they think may be specific to or the outlook of the trainees. We have had resource people I believe from all of these groups at various times sitting with the supervisors, talking to them about conditions in the north and some of the perceptions I suppose of what they think the perceptions of these young trainees would be.

Q Can you tell me when was the last time a representative of a native organization attended one of these seminars?

A The Brotherhood specifically?

Q Not specifically, no.

A I believe it was about
last September or October.

A Gosh, I don't have that
with me. I believe that Mr. Cockney from Tuk was at
that one. I can't remember. There were some there.
just don't recall, from what group they were.

WITNESS SIDER: I think Mr. Cockney has probably had the most continuous attendance at these seminars, but there certainly has been ^{at} a number of the supervisory seminars that I attended, always, four to five resource people, utilized in these sessions.

1 Representing various organizations.

2 Q Including native organiza-
3 tions?

4 WITNESS WOPNFORD: These are
5 native organizations we're talking about.

6 Q Just a couple of more areas
7 and I'll be through.

8 On page seven, the very first
9 paragraph, you say:

10 "During the construction period demand for barges
11 will be high, but the actual impact cannot be assess-
12 ed until we are able to identify the proportional
13 amounts of prefabricated modules that will be com-
14 ing either by sea lift, or by the Mackenzie system."
15 the possibility,
16 This implies/doesn't it, that
17 construction materials may displace conventional supplies
18 in the barge system?

19 A No, I don't believe that
20 is the case. I'd like to suggest to you that one of our
21 policy witnesses who has some information with respect
22 to some work that has been done by the producers and
23 Arctic Gas in a committee, Mr. Czaja, is going to be a
24 policy witness and I think could address that.

25 Q Well, I'll hold it for
26 him then.

27 Just one last thing, in response
28 to information requested, page eighteen, concerning co-
29 operation with Unions, you say:

30 "The proponents will urge the general contractor
and its sub-contractors to give high priority to

1 the application of the intent of article five of
4 International Labour Organization, convention three,
3 1958 in negotiations with the trade unions."

4 What is article five of that
5 convention?

6 WITNESS SIDER: Mr. Bell, quite
7 honestly, we couldn't find out what that article five
8 was either. That was quoted in the request by the comm-
9 ittee. We did considerable research to find out what
10 article five was and were unable to find it.

11 THE COMMISSIONER: It's employment
12 of native ^{people.} I've read article five which is just about
13 unreadable but if you work very hard at it I think that
14 comes through. Well, all right, no one has read article
15 five, so where does that get us.

16 MR. BELL: Well, that ends the
17 matter sir. I have no more questions.

18 THE COMMISSIONER: You know,
19 the difficulty here is, it's obvious that your companies
20 have been trying to develop programs to employ native
21 people. This industry though, is a very sophisticated
22 industry. You have very advanced technology which we
23 observed yesterday out in the delta, and obviously you
24 require many years of training to undertake some of
25 those jobs. Where you are drilling in southern Alberta,
26 you've got a large population to call upon to train, and
27 to work in that industry. Here in the delta you've got
28 5,000 people and the people you are seeking to employ
29 are people whose educational, the people of, in many
30 cases of limited education, for reasons that are well

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1 known to all of us, and Mr. Todd said that at the refin-
2 ery at Norman Wells out of 25 permanent positions, one
3 was held by a native and that refinery has been there
4 for half a century, maybe. Granting that you have
5 all the good faith in the world, this isn't easy.

6 WITNESS SIDER: I appreciate
7 your comments, Mr. Commissioner. I think that we've
8 attempted in all of our planning, to be realistic. I
9 think that what we have been doing is attempting though
10 to achieve a better understanding of the native person.
11 I think that we as an industry are working much harder
12 at attempting to understand their needs, relate them to
13 our requirements and then marry the two. We are optimis-
14 tic that given a period of time there will be a great
15 deal of improvement in this picture.

16 THE COMMISSIONER: I'm not being
17 critical, don't get me ^{wrong}/I'm just musing on what we've heard,
18 and in a way sympathizing with you. Looking at their as-
19 pirations, looking at your own requirements and trying
20 to marry the two, that's I think a lot easier in Southern
21 Alberta than it is here. And it may be that even in
22 southern Alberta, employment of the native people in ^{the} in-
23 dustry is of a limited nature.

24 Well, I wonder, what time is it?

25 MR. BELL: It's three o'clock.

26 THE COMMISSIONER: Well, we
27 could have an early coffee break and come to Mr. Bayly.

28 (PROCEEDINGS ADJOURNED AT 3 P.M.)

29 (PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

30 THE COMMISSIONER: Monday is

1 usually a half day that's why we are in difficulty al-
2 ready.

3 MR. BALLEM: I would advise
4 that we now have the Gravel Inventory Survey, Richards
5 Island & Adjacent Areas, by J. D. Mollard, OCTOBER, 1972
6 which is the report that has been previously referred to,
7 and I would now file that as an exhibit.

8 (GRAVEL INVENTORY SURVEY, RICHARDS ISLAND & ADJACENT
9 AREAS. J. D. MOLLARD, & ASSOCIATES, October, 1972
10 MARKED EXHIBIT 437)

11 THE COMMISSIONER: Before you
12 start Mr. Bayly, let me just ask the members of the
13 panel if, I just made some notes of some information
14 that I would like and let me just put it to you. You
15 probably can't answer this right now, but if you can
16 through Mr. Ballem, let us know tomorrow or just send
17 us the information by letter, that would be fine. How
18 many people does each company, Gulf, Shell and Imperial,
19 employ in its delta operations? How many are natives,
20 and how many are white? What is the average length of
21 employment of natives, and what is the average length of
22 employment of whites? What are the job categories held
23 by natives, and what number hold each category. In
24 other words, how many of them are in each category, and
25 what job categories are held by whites, and what numbers
26 are there in each category? If that isn't imposing too
27 great a burden, maybe you could send that along to us.

28 WITNESS SIDER: Mr. Commissioner
29 I do have some of that information now, but I think it
30 would be much more beneficial if we simply responded in

1 letter form and we would be pleased to take that.

2 THE COMMISSIONER: Fine, thank
3 you.

4 CROSS-EXAMINATION BY MR. BAYLY:

5 Q In the evidence
6 that you have given, you've been discussing socio-econom-
7 ic impacts --

8 THE COMMISSIONER: Excuse me,
9 Mr. Bayly. Just one last thing. If it is possible, in
10 the case of the natives, could you give the village of
11 --

12 WITNESS SIDER: The settlement
13 from which they have come?

14 THE COMMISSIONER: Yes.

15 WITNESS SIDER: Yes sir.

16 MR. BAYLY: Q Gentlemen, I've
17 read your evidence and it deals with socio-economic im-
18 pact or social and economic impact that the proposed
19 facilities that you would like to build may have.
20 covers a number of areas and I would ask you whether
21 your analysis of the potential impacts includes potential
22 impact on the following. Some of these ^{are} things were dis-
23 cussed by me in my cross-examination with Dr. Hobart,
24 and he had said that some of them were indicators of
25 social impact.

26 One is health, and did you,
27 when you were preparing your evidence, look at the im-
28 pact on health, and health services, that might be the
29 result of the kind of industrialization that you are
30 proposing? Just to help you with that if that's a diffi-
31 cult question, did you look at, for example, the possible

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1 changes in diets, or combination of diets and what that
2 might do to the health of peoples, and did you look at
3 whether there would be more, or less hospital beds avail-
4 able for people?

5 WITNESS WOPNFORD: We have not
6 addressed ourselves, at least at Shell, to things like
7 diet as you asked about. We do have though,
8 in progress now, a study that was initiated just recently
9 with respect to intra-structure that may be required, in
10 addition to what is already here, and I'm talking about
11 things like, what effect it will have on hospital beds,
12 and so on.

13 Q And you say that study is
14 in preparation, and can you tell me when that is likely
15 to be available and if it would be available to us at
16 the Inquiry?

17 WITNESS SIDER: I would think
18 Mr. Bayly, that information will be available, probably
19 within the next four to six weeks. I understand it will
20 also be entered into evidence in phase four and there
21 will be testimony given on that.

22 Q Mr. Sider, when you say
23 you understand it will be entered into evidence in phase
24 four, do you mean by the producers or have you got some
25 understanding with one of the pipeline applicants to
26 this effect?

27 A By Arctic Gas,
28 in their phase four.

29 Q And I wonder Mr. Commiss-
30 ioner if this is something that Arctic Gas will under-

1 take to do or whether I should ask Mr. Ballem if that
2 report could be produced when it's ready?

3 MR. BALLEM: We'll certainly
4 do it I would think, but maybe if Mr. Marshall is going
5 to introduce it, that might be preferable.

6 MR. MARSHALL: At this point
7 Mr. Commissioner, we haven't made a definite decision
8 about all the evidence we are going to call in phase four
9 and with respect to this report, which I've heard about
10 but not seen, which I understand is in the process of
11 preparation, and the other report that Van Ginkel Asso-
12 ciates produced and was referred to in the cross-examin-
13 ation of Mr. Bayly. I expect that, yes, we will be lead-
14 ing some evidence about these. We simply haven't final-
15 ized all our plans yet for the evidence and that's why
16 I don't wish to give an undertaking at this point.

17 MR. BAYLY: Perhaps, the most
18 appropriate thing would be to ask Mr. Ballem to make it
19 available to the Inquiry, as part of a list of reports
20 whether it's relied on in evidence or not.

21 THE COMMISSIONER: Maybe you
22 could do that, if you don't mind.

23 MR. BALLEM: Yes we'll do it
24 and that will probably will take care of it.

25 MR. BAYLY: Moving on to another
26 item that I would ask you whether you considered, and
27 that was the impact on mental health, and mental health
28 facilities in the north that your project may have?

29 WITNESS WOPNFORD: We have not
30 nor are we competent to. I believe that is the kind of

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1 study that should be commissioned and handled by a res-
2 ponsible body such as the government.

3 Q And with regard to educa-
4 tion, you've made some remarks about the education system.
5 Have you made any assessment of the possible impacts
6 that your project may have on education facilities and
7 even the education process; and what I mean by that is
8 your project may be very attractive in the wages that it
9 offers and for potential students and potential teachers,
10 it may divert them from school into work on your project.

11 THE COMMISSIONER: Isn't that
12 speculation?

13 MR. BAYLY: I'm just wondering
14 sir, whether this has been an area in which they studied
15 the possible social and economic impacts. This is the
16 panel sir, that has said they will be dealing with that
17 in trying to forecast what those will be and perhaps
18 even mitigate against them.

19 THE COMMISSIONER: All right.

20 WITNESS WOPNFORD: We have a
21 program of going into the schools, all along the valley,
22 talking to students about the oil industry and what we
23 may have to offer. We have had discussions with the
24 very problem that you have identified. We don't partic-
25 ularly have a solution for it. We have tried to be care-
26 ful, to only talk to students in the higher grades of
27 school and in the course of our conversations with them,
28 we have pleaded with them, if you like, or recommended
29 very highly to them that they continue on with their ed-
30 ucation before they do come to work for us.

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1 Q Now, with regard to the
2 question of political development of the north, have you
3 assessed the possible impacts on the rate of development
4 politically that your project or projects may have?

5 A No sir, we haven't.

6 Q And, do you contemplate
7 doing so?

8 A No sir.

9 Q And with regard to housing,
10 you've made some comments in your evidence, about housing
11 in that you say that ^{if} there are more wages, there will be
12 better and more housing. Have you looked at the impacts
13 of the project on the housing industry in the north, how
14 many more houses will be needed? Whether it will cause
15 higher costs of housing?

16 A Many of those items are
17 dealt with in the report that we've just talked about.
18 Mr. Bayly.

19 Q Then, moving on to the
20 matter of family life; now Dr. Hobart's evidence didn't
21 deal directly with family life and how that might change.
22 Have you in this recent report, assessed the possible
23 impacts on family life, possibilities of family break-
24 downs and changes in family patterns as a result of em-
25 ployment and its scheduling?

26 A No. This report does not
27 deal with those matters. It isn't primarily a social-
28 ogical report.

29 Q So with the exception of
30 the information that you have from Gulf on the Coppermine

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Cross-Exam by Bayly

1 situation, this has not been assessed for the delta
2 region.

3 A That is correct.

4 Q And with regard to ser-
5 vices in the community, you have referred to municipal
6 services perhaps following higher wages. Have you looked
7 at the impacts that this project may have by bringing
8 large numbers of people into the north on existing
9 municipal services, and whether there is a likelihood
10 that we will be faced with the Valdez kind of
11 situation of services that are just not capable?

12 WITNESS SIDER:

13 That will form part of
14 the study that's being commented on.

15 Q And with the exception
16 of the wages versus traditional sources of income,
17 have you looked at the impacts that your project may
18 have on culture and the other aspects that are generally
19 lumped into the definition, whether they be language
20 or again going back to the family concerns and patterns
21 of group interaction?

22 A No sir.

23 Q Then, that doesn't form
24 part of the study that you're

25 A No, it does not.

26 Q The reason I ask about
27 these, and some of them you have responded to by saying
28 that they are in a report that will be released shortly.
29 All of these matters are mentioned in the Carney-Gemini
30 reports and, I wondered if you looked at those reports
when you were deciding what you would look at in defin-

1 ing a social and economic impacts.

2 A Well certainly, we've all
3 had a look at the reports. They didn't necessarily es-
4 tablish for us the areas in which we felt we should
5 take a look at.

6 Q Would you agree with me
7 that those things that I have outlined, including the
8 ones that you have not studied, may well be areas where
9 social and environmental impact, may be felt. Both neg-
10 atively and positively?

11 A Very much so.

12 Q So they are worthy of
13 study even though you've elected not to look into them.

14 A I think that we've identi-
15 fied that there are areas that we don't feel that we
16 should necessarily take a look at.

17 Q And is this because you
18 say these are really the Government's job to look at or
19 somebody else's.

20 A Yes, sir.

21 Q All the Governments' or the
22 Government and somebody else?

23 A I think it would be a
24 combination.

25 Q Of?

26 A Of Government and somebody
27 else.

28 Q Who else?

29 A I think, in certain cases
30 there could be consultants used. Qualified consultants.

1 Q But those are consultants
2 too, the Government is. That's what you are referring
3 to, is it?

4 A Perhaps.

5 Q Perhaps, to who else? There
6 may be something that you haven't thought about, and in
7 which case, that's fine.

8 A And, we'd be delighted to
9 have it pointed out to us, if we feel there's an area
10 that we should take a look at Mr. Bayly.

11 Q Now, are these areas that
12 I've discussed that you haven't looked at, are they
13 areas that may include things that you don't feel com-
14 petent to look at and I think mental health is one that
15 Mr. Wopnford was suggesting that - -

16 A ^{certainly} I don't think that Mr.
17 Wopnford is qualified to look at mental health.

18 (LAUGHTER)

19 WITNESS WOPNFORD: I think he's
20 talking that maybe I should have been looking at myself.

21 MR. BAYLY: I really didn't
22 mean it to be ^{question to} a reflect on your own personal qualifi-
23 cations. I was looking at the role of the industry.

24 WITNESS SIDER: There's no
25 question Mr. Bayly. Our industry may possess many
26 talents but it doesn't possess all of the talents. We
27 try hard.

28 Q Now in discussing social
29 and economic impact, would you tell me whether you
30 addressed yourselves largely to what has happened and

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1 what is happening or to a forecast of what you think
2 might happen, or is likely to happen?

3 WITNESS WOPNFORD: Could you
4 repeat that question please?

5 Q All right. In assessing social
6 and economic impacts, you can look at, I suggest to you,
7 two things. You can look at what has happened in an
8 area and say "This will continue to happen," and I'll
9 use^{as} an example of that, that we've had evidence come in
10 from Coppermine, and look what happened in Coppermine,
11 therefore, this is what you can expect. That is what
12 we may, one of the things, we may take from it. Or are
13 you looking at in the way you have gone about your task,
14 are you looking at the delta region and saying, "Let's
15 look ahead and see what might happen." You can say that
16 it's more of the same of what's going on now or you can
17 say it's going to be something different and I want to
18 know what you did.

19 WITNESS SIDER: I would certainly
20 ly think that we have utilized all of those areas. What's
21 gone on in the past, what's currently happening, and per-
22 haps what we even see in the future, of trying to define
23 you know, if your next question is what things did you
24 do in each of those areas. That would be difficult to
25 get a handle on. But I think that we've tried to per-
26 haps, encompass all of those.

27 Q Well, when you set about
28 to do your assessment, did you sit down and realize
29 that there are these two ways of looking at the problem
30 and try to separate them and realize what you were doing?

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1 WITNESS WOPNFORD: I think what
2 we have done is say, "We have what we consider a viable
3 project here, and it is going to have a certain impact
4 on the area. What is that impact going to be?" In
5 order to determine that, I believe we have to look at
6 some historical things and Coppermine may be one of them.
7 And then try to project what is good and what is bad and
8 what we can do to alleviate those situations that may
9 be less desirable, so I'm not sure that I follow.

10 Q Well let's look at the
11 future part of it. Did you look at your own project
12 only for those in terms of reference, or did you look
13 at your project and the pipeline building project as
14 having impacts that might multiply upon each other?

15 A We've recognized that they
16 were to be additives to impacts that we would have.

17 Q We have a new word now.
18 "Synergistic," which I think means, multiples of each
19 other. Did you consider the possibility that in combin-
20 ation, the impact or benefits may be multiples?

21 A I would consider them
22 additive, but I'm really not qualified to say that.

23 Q All right. And the other
24 gentlemen. Did you feel qualified to express an opinion
25 as to whether they would be additive or synergistic?

26 WITNESS SIDER: No, I don't
27 feel qualified.

28 Q Mr. Tod?

29 WITNESS TOD: No sir.

30 Q And apart from Dr. Hobart,

Sider, Ted, Wopartod
Cross-Exam by Peely

1 did you hire anybody upon whom you rely who could per-
2 haps give you this expertise that you don't possess,

3 WITNESS SIDER: At this point
4 in time, no, Dr. Hobart was our expert.

5 Q Well let's have a look at
6 volume six of your socio-economic considerations at page
7 thirty-four where you say:

8 "Because of the concern that change from the trad-
9 itional life to that of a wage economy might be
10 detrimental to the northern natives, qualified in-
11 dependent sociologists have conducted impact stud-
12 ies on specific northern communities."

13 Are you referring there to Dr.
14 Hobart's study and perhaps the Van Ginkel studies?

15 A Dr. Hobart.

16 Q Just Dr. Hobart. So
17 really when you say northern communities, you should say
18 northern community and refer to Coppermine.

19 A Well, I suppose an exact-
20 ing type of study by Dr. Hobart has only been done on
21 Coppermine.

22 Q ^{Yes} / I don't mean to say that
23 Dr. Hobart didn't do some other work but the way he re-
24 ferred to it was that his intensive study was Coppermine
25 and he did some related objective questionnaire work in
26 Tuktoyaktuk and Aklavik and to a certain extent the
27 other communities in the delta.

28 A I would think that it's
29 obvious from Dr. Hobart's comments that he certainly has
30 a considerable degree of knowledge about the communities

Sider, Tod, Wopnford
Cross-Exam by Bayly

1 in the delta area and certainly in our conversations
2 with Dr. Hobart we glean^{ed}/certain pieces of information
3 which we thought were pertinent.

4 Q Right. But you didn't see
5 fit as an industry to hire him or anybody else to study
6 the communities in the region to be impacted to predict
7 the impact on the individual communities there?

8 A No sir.

9 Q And Dr. Hobart also said
10 that you can't compare the communities very easily,
11 that each one is different and distinct and should be
12 studies on its own terms.

13 A That's correct.

14 Q And so far you haven't?
15 done that.

16 A No sir.

17 Q And have you any plans to
18 that?

19 A We have no immediate plans.

20 Q In any of the other stud-
21 ies that may have gone into producing this report that
22 you are going to have available within the next month
23 or month and a half, did you have medical personnel or
24 educational specialists, or anthropologists or political
25 scientists helping you put this together or was this
26 something put together within the companies or within the
27 industry?

28 A Quite honestly, Mr. Bayly,
29 I don't know the degree of expertise from outside sources
30 that have been drawn into this report.

Sider, T. L., Wopnford
Cross-Exam by Bayly

Q We'll know that when we see the
A I would expect that, sir.

Q Turning to another matter,

let's talk about your evidence at page one and you have
said that, part way through the second paragraph:

"That the opportunities for employment have been
limited."

It appears unclear from the
evidence of Dr. Hobart what the employment picture in
the delta is. It's quite clear on what it is in Copper-
mine. He's done that analysis of it there.

Have you analyzed the employ-
ment picture in the delta, to see what options there are
available and perhaps whether there are not more jobs
available than people who are willing to take them.

WITNESS WOPNFORD: I believe
in Dr. Hobart's testimony, he suggested that prior to
the movement of the oil industry into the delta region
there was a significant unemployment problem, so if you
are asking, did we review what it was before we got here.
Was that your question?

Q Well, did you do that?

A No.

Q You do say in volume six
again at page three:

"It is apparent that the potential employment oppor-
tunities would outnumber the supply of native workers."

And that, I take it is when you
commence your project, as opposed to now, that that
statement refers to?

WITNESS SIDER: Certainly, I
think it is applicable to when the project might commence.

1 But I think there has been some, already there has been
2 an indication that on a number of occasions workers have
3 been required out of the immediate area and they have
4 not been available.

5 Q I'm looking here at Gemini
6 North's report prepared for Arctic Gas called Social &
7 Economic Impact of the Proposed Arctic Gas Pipeline in
8 Northern Canada, book three at page 143 and there's a
9 statement there on that page at the beginning of the sec-
10 ond paragraph that says:

11 "Contrary to what might be inferred from our esti-
12 mate of the rate of employment of the working age
13 population, few are in fact unemployed and available
14 for employment."

15 Would your observations and
16 experience disagree with that?

17 WITNESS WOPNFORD: In recent
18 years, I think that's correct.

19 Q Now, she goes on to say, at page
20 145, in the first paragraph:

21 "Within the pipeline corridor sub-regions, i.e. the
22 lower central and upper Mackenzie and northern
23 Yukon, there are some 2700 males of working age
24 and employment for about 1500 on a fully employed
25 basis. This leaves a maximum of about 1200 males
26 potentially available for pipeline employment, which
27 must be reduced by the number of non-participants
28 and modified by seasonal factors discussed in the
29 next section."

30 Would you agree with her basic

Sider, Tod, Weynford
Cross-Exam by Bayly

1 figure that there may be 1200 men, potentially available
2 in those regions?

3 WITNESS SIDER: As I recall,
4 Mr. Bayly, I think of the projections that we made, in
5 assessing the numerous papers that are around on popula-
6 tion projections and manpower availability etc., and I
7 think we concluded that there may be even slightly less
8 than that number.

9 Q She goes on to say with
10 regard to the effect of labour force, page 146:

11 "That the number of males in the effective labour
12 force is considerably smaller than the number of
13 males of working age and varies on a seasonal basis."

14 That would tie in with what you
15 have just said.

16 She also says:

17 "It is not possible to quantify or to project the
18 size of the effective labour force in the study
19 region."

20 Would you agree with that?

21 A Certainly difficulties in
22 projecting it.

23 Q All you can really give
24 is a rough estimate, I suggest to you.

25 A Yes.

26 THE COMMISSIONER: Who is this
27 writing?

28 MR. BAYLY: This is Gemini-North
29 and I assume it's Pat Carney or someone on her staff, sir.

30 Q Now when you were talking

Witness, Ted, Wopnford
Cross Exam by Payly

1 on the first page of your evidence again, about the oppor-
2 tunities for employment having been limited, you're
3 talking about wage employment I presume, rather than
4 the tradition I submit, are you?

5 A Yes sir.

6 Q Would it be fair to say,
7 that what you have suggested in the first part of your
8 evidence that it's the goal, or a value to be pursued by
9 most native northerners to seek the opportunity for long
10 term permanent employment?

11 WITNESS WOPNFORD: You're asking
12 if that should be their goal?

13 I'm asking you think
14 that is one of their goals? I'm assuming that if you say
15 it should be, that that's a pretty subjective kind of
16 judgement.

17 A No, I think it would be
18 better asked of them.

19 Q Well, I quite agree, but
20 I'm just asking you if you assumed when you prepared
21 this evidence that it was one, or whether you surveyed it
22 to find out whether it was one?

23 A We didn't survey it but
24 we certainly had interest from people in seeking employ-
25 ment. Coming to us looking for that kind of work, so I
26 would assume that would be one of their goals.

27 THE COMMISSIONER: You assumed
28 that it would be desirable if many of them were to ob-
29 tain long term permanent employment.

30 Yes.

1 MR. BAYLY: All right, but what
2 I'm asking you now, is your experience that most native
3 northern people, who have been employed by your companies,
4 does it appear to be their pattern to go for the perman-
5 ent long term jobs, or for seasonal jobs?

6 WITNESS SIDER: I think Mr.
7 Bayly, that there would be quite a mix in there. Obviou-
8 sly, those that are on the Nortran, have identified that
9 they would prefer to go for the long term continuing em-
10 ployment on a twelve month basis, while another large
11 section prefers seasonal employment which allows them to
12 better handle, in terms of their lives, the traditional
13 way of life, along with employment, which provides them
14 with certain benefits also.

15 Q All right. Would it be
16 fair to say though, that given that the Nortran program
17 has not gone for a long enough period of time to gradu-
18 ate its first five year term people, and that it has had
19 a drop-out rate, we can't tell whether the people that
20 went into the Nortran program, will in fact have these
21 goals you are attributing to them?

22 WITNESS WOPNFORD: I'm sure,
23 I think the history of the north ,that there have been
24 a number of people, talking to someone at coffee break
25 who is a native northerner and who had been with the
26 government, the R. C. M. P. for something like 30 years,
27 so it wouldn't be an unusual thing, I don't think.

28 Q All right. And if we go
29 back to the Norman Wells example, we've only been able
30 to find one full time employee and the rest are people

Sider, Tod, Wopnford
Cross-Exam by Bayly

1 who come on seasonally and perhaps, to be fair, regularly.
2 They may come on every barge season, but they look at
3 that job as one that only lasts them for part of each
4 year. Would that be fair to say?

5 WITNESS TOD : Pardon me, but
6 there are some other circumstances associated with the
7 NOrman Wells operation and that is that there are very
8 few native people living right in the Norman Wells area,
9 and the people who are looking for employment are coming
10 in from outside sources and this is the reason that we
11 have the seasonal type of employment rather than the
12 more permanent type of employment.

13 Q Well, wouldn't you expect
14 that to be the same at Parsons Lake or Niglintgak or
15 Taglu. Nobody lives there right now. They'd have to
16 come in from the surrounding communities even if they
17 were native people who lived in the delta region.

18 A I think that we are over-
19 looking the fact that the modes of transportation to-
20 day and the trends of today are significantly different
21 than what they were in the past. We are dealing with
22 what was happening a long time ago so that these people
23 weren't as mobile as people are today. Therefore, I
24 don't suggest that we can extrapolate directly like that.

25 Q You're not suggesting
26 though that it's any more difficult to get from Fort
27 Norman to Norman Wells than it is get from Edmonton to
28 Norman Wells, are you?

29 A Oh no sir.

30 Q So we should, perhaps,

Sider, Tod, Wopnford
Cross-Exam by Bayly

1 have seen some trend according to your hypothesis to more
2 native people seeking permanent employment ^{from} surrounding
3 communities around Norman Wells?

4 A Well, we have the Nortran
5 people that are on the staff at Norman Wells also, and
6 I haven't chosen to include those in our totals as to
7 the permanent people, but that adds another five or six
8 people who are in there at this point in time. The dis-
9 cussion that we had a little earlier, was in terms of
10 someone who had been working in the refinery and opera-
11 tions for extended periods of time.

12 WITNESS SIDER: Mr. Bayly, may-
13 be I can clarify one point. I wouldn't want to see any-
14 one misinterpret the comment around the five years of
15 training, and expect that all training takes place in
16 the first five years and after that everybody is quali-
17 fied to do any number of jobs. We emphasize career train-
18 ing, and I think that word has to be looked at carefully.
19 As far as our industry is concerned, career development
20 means that opportunities for development, acquiring added
21 skills is a process that goes on for an undetermined
22 number of years. For the period of time, when a person
23 commences employment, until such time as they may choose
24 to terminate their employment, whether that's after ten
25 years or whether that's after twenty years. So I just
26 wanted to make the point that five years is not the mag-
27 ical period of time in which people become trained to
28 work in the industry. It's an on-going process, and
29 really is totally dependent upon the individual's own
30 aspiration.

Sider, Tod, Wopnford
Cross-Exam by Bayly

1 Q Well, do you have a program
2 called Soutran for training southerners?

3 A Well, I guess we wouldn't
4 call it Soutran but we certainly have any number of pro-
5 grams which are carried on on a continuing basis in the
6 south.

7 Q And, do they take a correspon-
8 ding period of time for people to develop the skills, or
9 is the northerner training program designed for a slower
10 progress through this series of hoops.

11 A No, they certainly,--series
12 of hoops. I guess we've all been through a series of
13 hoops and continue to be.

14 THE COMMISSIONER: There are
15 still a few to go through.

16 A There's no dif-
17 ference in the kind of programs that we have established
18 within Nortran to what we've always done within the In-
19 dustry.

20 Q Now, let's refer to page
21 twenty-four of your volume six where you have adopted--

22 THE COMMISSIONER: Excuse me
23 just a moment.

24 MR. BAYLY: I lost my audience.
25
26
27
28
29
30

Sider, Tod, Wopnford
Cross-Exam by Bayly

THE COMMISSIONER: I'm sorry.

MR. BAYLY: On page 24 of the socio-economic assessment, volume six, you quote Gemini North and talking about the evolutionary process from lifestyle to lifestyle and from economy to economy, she states, and I assume it's something that's been adopted by you this --

THE COMMISSIONER: Excuse me, is this Gemini ?

MR. BAYLY: This is Gemini as reported in the socio-economic assessment of Gulf, Imperial and Shell.

THE COMMISSIONER: Volume six?

MR. BAYLY: Volume six, page 24. And you state there, "that this trend supports the view that in time, given appropriate training and job opportunities a stable and productive northern labor force will increase at the settlement level. We are not to naive as to imply the attainment of this goal will be easy." That implies and I invite you to agree with me that it is an industry goal to create a stable, northern native labor force in the settlements.

WITNESS SIDER: I would say, yes. Certainly the opportunity, Mr. Bayly.

Q All right. And when you say, "the attainment of this goal will not be easy, do you mean for the company or for the people?

A For both.

Sider, Tod, Wopnford
Cross-Exam by Eavly

Q And how important is it to the company from its own point of view and that is as opposed to its perhaps altruistic point of view, to have a stable northern labor force or labor pool upon which it can count?

WITNESS WOPNFORD:

I think that's desirable in any community whether it's the north or any place else.

Q And it's cheaper for example, to send a person home to Tuktoyaktuk than it is to send him home to Edmonton, for an example?

WITNESS SIDER:

Well, in our case, it must be pretty well a saw-off when you're flying 500 miles over to Coppermine. You know, there's a benefit to the company by going to Coppermine, that's certainly why the program was instituted there. Because there was a dependable work force that we could plan on in terms of our operations.

Q All right. Now, does that imply then that there wasn't a dependable work force that you could rely on from the communities closer to Swimming Point?

A In our case, yes.

Q All right. And do the other companies agree with that?

WITNESS TOD:

Well, I think that Bruce answered the question this morning. He stated that the reason that they went to Coppermine was so that they would be able to keep from picking up on the market that was already being used by the other two companies.

Sider, Tod, Wopnford
Cross-Exam by Bayly

Q All right. Now that
market is going to continue, I take it?

WITNESS WOPNFORD:

A In the delta?

Q Yes.

A Yes.

Q So that in the increase in
the work force will have to come from somewhere else,
whether it's from Spence Bay or whether it's from
Pincher Creek?

A Well, in part, although,
Mr. Hobart, I don't have the figures specifically, but
there is a fairly significant number of young people
coming into the work force every year. So there would
be some balance.

Q But that's -- so far that's
not enough to keep Gulf from feeling that it should go
off to another community not in the region. Is that
correct?

A Yes.

Q Now, did you check with
the communities to see whether one of their goals
was to provide a long term stable labor pool for the
oil and gas industry? I'm referring to those communities
in the delta region itself.

WITNESS SIDER:

A Well, you know certainly
that was -- that was the approach that was taken in
Coppermine, but you've specified the delta communities.

Q I have.

A The producers have over
the past number of years had continuing rapport at the

Sider, Tod, Wopnford
Cross-Exam by Bayly

community level, identifying to the communities what their current plans were, what their projected plans were and soliciting from them response in terms of were they interested in being involved? And certainly, they've indicated to this point of time, yes, they did want to be involved and that's why there is a substantial portion of the manpower utilized out of the immediate delta communities.

THE COMMISSIONER: Maybe we could take another five, ten minute coffee break and then carry on. Would that be all right?

MR. BAYLY: Certainly, sir. I have a few hoops left to go.

THE COMMISSIONER: You what?

MR. BAYLY: I have a few hoops to go through yet, sir.

(PROCEEDINGS ADJOURNED FOR A FEW MINUTES)

(PROCEEDINGS RESUMED PURSUANT TO ADJOURNMENT)

THE COMMISSIONER: Well, let's come to order ladies and gentlemen. And see if we can stagger on till five.

MR. BAYLY: Now moving on from where we left off before coffee, I wonder if you have looked into whether a significant proportion of the native people living in the delta are more interested in seasonal employment with the hydrocarbon industry?

WITNESS WOPNFORD: Mr. Bayly, maybe we could best answer that by some numbers that we've gleaned from the northern -- the northern resident employment by the oil industry. This is that committee

Sider, Wopnford, Tod
Cross-Exam by Bayly

that was referred to earlier and over the last -- 1971
for instance, we had 400, slightly more than 400 --
we've had as high as 600 in the last four years, so I
would assume that people would be interested in seasonal
employment.

Q All right and these are
the figures that I went over with Dr. Hobart?

WITNESS SIDER: I believe that's
correct, yes.

Q I gather that's fine in this
part of the operation in the development, the discovery
process where your work is largely seasonal in any
event? Is it going to be possible, in your opinion for
people who continue to want to work for a few months a
year, and trap or stay home or whatever for the other
months of the year, to be accommodated in their chosen
working, living patterns by the oil and gas industry?

WITNESS WOPNFORD:

A Over the next
several years, I'd expect that there wouldn't be --
that those jobs would be offered and I think we could
relate it to the history of development in Alberta for
instance where there has been continuing -- as a matter
of fact, at the moment increasing exploration and so
those kinds of jobs would likely continue for some
number of years. It would be difficult to specify how
many, but certainly over the next -- longer than I'll
be around, I guess.

Q At least twenty years, then?

A I would think -- well, I
wouldn't like to put a figure on that, but certainly 15

Sider, Wopnford, Tod
Cross-Exam by Bayly

to 20 years, I would think.

Q My concern is that after this period of years, whatever it is, those people who want to continue work in the hydrocarbon industry will have to make a choice, either permanent employment or no employment in the hydrocarbon industry or very little?

WITNESS SIDER:

A I think, yes, we would see it at the present time Mr. Bayly, that the opportunity particularly for, you know -- seasonal work will go on for a considerable period of time, if the project goes ahead.

Q Right. But one of the things that the companies you represent are very proud of, is the fact that you have a job satisfaction in your company that keeps people on for a full career, right through their working lives.

A Yes.

Q And what I'm wondering is whether in this situation where people may want to exercise choices at different seasons, whether the companies are prepared to adapt themselves to that life-style?

A Well, I certainly think to this point of time, and I really wouldn't conceive of any need to change in the immediate future or foreseeable future -- no question that they're accommodated in their needs and it certainly satisfies our requirements. You know they -- the whole process that we're going through is a learning process -- I think I indicated that earlier. Not only from the standpoint of native

Sider, Wopnford, Tod
Cross-Exam by Bayly

people but from -- from our standpoint. I can think back to the early stages of the Coppermine people coming over, frequently we would find that individuals would come and work one or two work periods and then perhaps they'd take two or three off, and then come back again maybe for one or two and then take another period of time off. Increasingly, we're finding that they're coming back regularly on the crew changes and fine, that's great from our standpoint. That facilitates our requirements and obviously they do it because it's a choice they have, and I think that's one of the great things as far as I personally am concerned, is that what we have are a number of options that are available and it then becomes their selection process rather than ours.

Q I understand that. What I'm concerned with is that you may consider your successes in terms of the number of people that come back shift after shift, and that may leave behind those who come for a couple -- want to come for a couple of shifts a year.

A It may well, I don't think that I could tell you how we'll feel two or three years from now on that. But I -- you know I still feel that there are certain segments of our work which are by their nature very short in duration. Specific jobs which would only require an individual to come in for one or two work periods and then the job is finished. So I would think that would carry on for quite a time.

Q Now, you have spoken in

Sider, Wopnford, Tod
Cross-Exam by Bayly

your -- in your evidence about northerners and I'm interested in how you'd define a northerner, and is the definition the one that's found on volume six at page 32? Down at the item two, producer experience, you say, "the definition of 'northerner' is "normally a person who has resided north of the 60th parallel for four or more years and therefore, includes whites"?

A I believe that that's the definition that the federal government currently uses in terms of defining a northerner and that's what we're currently operating on. We recognize that the territorial government have recently defined "northerner" from their standpoint and we are using the one that's shown in the book here.

THE COMMISSIONER: Four years residence?

A Yes, sir.

Q And what's the territorial government's definition?

A The territorial definition I think, is categorized into four areas. I'm sorry I don't have those categories with me.

WITNESS WOPNFORD: It more or less gives a rating. For instance, if you were born in the territories, that's the first priority and it goes down a list.

Q You mean for purposes of employment with the territorial government, is that it?

A I can't tell you for sure what all that they use that definition for. I think it

Sider, Wopnford, Tod
Cross-Exam by Bayly

probably has something to do in some cases with some benefits that they may get. I'm sorry I can't answer that.

THE COMMISSIONER: Fishing and hunting, maybe. Well, don't worry about it.

WITNESS SIDER: Perhaps.

MR. BAYLY: Now, by concern with this is that you speak at the same time of operating staff from the south being phased out, are they going to be phased out before they become northerners or afterwards? I mean they consider themselves northerners by your definition and then you're going to try and phase them out, or some of them out?

WITNESS WOPNFORD: That may well happen.

THE COMMISSIONER: Well, isn't it fair to say that if you brought somebody up to be an operator and he settled down and bought a home in Inuvik that the last thing in the world you'd do would be to phase him out.

A Well, certainly, he may have an opportunity to go to another operation someplace.

THE COMMISSIONER: Well, all right, well. OK, I see.

MR. BAYLY: Make him an offer that he can't refuse. The concern that I have about this, and it's one that may occur if a large number of people come over for your project and the pipeline construction project from Alaska, is that by your definition some people may become northerners before they

Sider, ~~Wopn~~ford, Tod
Cross-Exam by Bayly

are even eligible to become citizens.

A I think, and believe Arctic Gas could answer this better than we could. There are some discussions going on, I believe with the immigration people at the moment with respect to some preceived possible shortages of some certain skills, and I believe that they're -- they would control the entry of those kinds of people very carefully.

MR. BAYLY:

I wonder if we could get some indication from Arctic Gas, Mr. Commissioner, on whether these are secret negotiations between them and the immigration department or things of which we might have ^{the} benefit.

THE COMMISSIONER: Well, before we ask Mr. Marshall to do that, maybe you could just tell us -- I didn't quite follow that -- shortage of skills on the pipeline? Or in the gas projects?

A No. As far as I know we haven't been involved in that discussion.

THE COMMISSIONER: You're suggesting a shortage of skills on the pipeline and that it may be necessary for people to immigrate to Canada to do those jobs?

A Yes, on a short term basis; I understand. I really am not qualified to --

THE COMMISSIONER: And they'd come in on a visa or something. Could you tell us something?

MR. MARSHALL: My recollection is there is something in the application materials that

Sider, Wopnford, Tod
Cross-Exam by Bayly

indicates that there is a possibility that in certain skill areas there may be shortages that^{the} Canadian Pipeline Construction industry may not have enough people in certain specified categories. I think the reports that were listed some time ago by Acres identified the various skill categories and the number of personnel that might be available. Undoubtedly there will be some evidence led on this question, although it's really a matter that relates more to national economic impact and I gather the NEB are considering that question. But there will be some evidence led about the availability of workers. It's a situation I think that changes quite a bit from year to year, depending on the opportunities there are in Canada for the training of people in pipeline work as to whether or not there have been projects in which people can be getting training and I understand that there's a fair amount^{of} pipelining activity now with the Sarnia, Montreal line and that may have changed the situation, I don't know. We'll have some evidence on this general area of availability of manpower.

THE COMMISSIONER: Well, I would suppose that relates to the not very surprising prospect that you would need for instance, welders from Texas and Oklahoma now working on the Alyeska line to come here and work for you in the Mackenzie valley. But I think you should bank on calling that evidence, Mr. Marshall, because, though it has an impact on the national economy, I would think virtually everyone, native and white, living in the north, would want to know the extent to which people

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Cross-Exam by Bayly

will be coming from other countries to the north to work on the pipeline. That is the skills they will -- the positions that they will be occupying -- the shortages of skills that you feel will make their presence necessary. So even if the NEB is looking at it, as they no doubt, have to do, I think we will have to examine it as well or -- or else we'll have to leave town I think. I'm sure that it's expected of us.

MR. MARSHALL: Yes, sir. We'll call evidence on that.

MR. BAYLY: I'm going back to the training program. On page 16 of volume six, of the social and economic impact report. The bottom of the page you have said that "in establishing employment objectives, it should be borne in mind that the much publicized native recruitment and training programs for the railway, the mines and government services during the sixties, have resulted in very little permanent employment of indigens." How does Nortran differ from this and its forecast of its own success.

WITNESS SIDER: I'm sorry, Mr. Bayly I --

Q Page 15. Did I say 16?
I'm sorry.

THE COMMISSIONER: Now that's of what -- the responses?

MR. BAYLY: This is in the socio-economic assessment, volume 6.

THE COMMISSIONER: Oh, right. Volume six, yes. And they say that the territorial

Sider, Wopniord, Tod
Cross-Exam by Bayly

government and the Federal Government have not had a solid record of success in employing natives, is that the point?

MR. BAYLY: Sir, they say government services, they don't distinguish between the two. They add to that "mines and railways". -- In the Northwest Territories.

THE COMMISSIONER: And this is Van Ginkel speaking?

MR. BAYLY: No, this is whoever wrote this report for the three producers. It's Gulf, Shell and Imperial who've produced this document. And their conclusion is that the other programs for training haven't been very successful in providing permanent employment for native peoples.

THE COMMISSIONER. The government, the Great Slave Railway, and Pine Point. That's what they're talking about?

MR. BAYLY: Yes. At the bottom of the page, the last sentence in that page? You may want to read the whole thing on the history here.

WITNESS SIDER: All right, we have the quote, thank you Mr. Bayly. And your question again, I'm sorry?

Q What I want to know is how does the Nortran program differ in its assessment of its own abilities to provide a base of permanent employees when these other programs, by your own admission, have been unsuccessful? What are you doing that's so different?

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Cross-Exam by Bayly

A Sorry, I don't think we have a response for that, Mr. Bayly.

Q Does your company -- do your companies have a response for it that you could retrieve for us and give to us through your council?

A Well, I think that we speak on behalf of the companies.

Q You're putting a lot of eggs into that Nortran basket, and that's why I'm wondering in comparison to what you've said here, why you think it's going to be so successful? And it appears that you must have considered that, at some point. Maybe you didn't?

WITNESS WOPNFORD:

A Maybe we just thought we could do it better.

Q Well, that's why I'm asking. What make you think that? There must be something very special about the Nortran program if these others have failed and I want to know what it is.

WITNESS SIDER:

A Well, I -- you know -- I don't think that we can certainly suggest that it's more successful, I would think to this point of time, it has been successful whether it will continue to be successful or not, I think only time will tell. I think we need to go into it a little further. But, certainly, our assessment of the Nortran program at this time, is that it is very successful.

Q Well, let's see if we can define what its successes are. It's been successful in recruiting people?

Sider, Wopnford, Tod
Cross-Exam by Bayly

A Yes.

Q And it's been successful
in keeping a portion of that recruitment in training
for a period of years?

A Yes.

Q It's had a drop-out rate
which amounts to -- is it approximately 45 per cent
of the total number of people that entered into it?

A Yes.

Q And it's been going for
how many years?

A Formally since 1972. 1971-
72.

Q So, it hasn't completed
that -- it hasn't got to the five year milestone which
although, as you say, doesn't complete training, at
least gets people to a level where I suppose they don't
wear "I am a Nortran person" badge on their sleeve.

A Can I just keep attempting
to clarify and I think it's important -- we refer to
Nortran and that's the vehicle under which the employees
are recruited -- that certainly is the vehicle under
which initial training takes place and certainly they
are identified as Nortran employees, I suppose because
they are from the north and represent essentially
native people. But they are employees of the respective
hiring companies. They're regular employees, they're
employees who have the same benefits -- as a matter of
fact, they have additional benefits than our normal
southern employees, if you will. So, the distinction

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Cross-Exam by Bayly

1 of Nortran is probably only from the standpoint that
2 these are individuals that have been offered an
3 opportunity of moving into our business on a career
4 type basis with the probability that if development
5 takes place in the north, they will be returning to
6 perform the functions in which they have acquired skills
7 for. But, I would like to re-emphasize, they are very
8 much Gulf employees, Imperial employees, Shell and each
9 of the pipeline employees.

10 THE COMMISSIONER: These Nortran
11 employees work at gas plants and other installations
12 that member companies have?

13 A Yes, sir.

14 Q Mainly in
15 Alberta, I take it?

16 A Yes, sir.

17 Q Are any of
18 those gas plants unionized?

19 A In our situation, yes sir.

20 Q Now, with
21 these Nortran employees and the special considerations
22 extended to them, have you had any difficulty with the
23 unions in respect to those special considerations for the Nortran
24 people?

25 A No, we haven't had any
26 difficulties, Mr. Commissioner. We have obviously had
27 considerable discussion with the unions concerning the
28 placement of the Nortran employees in those particular
29 locations and we made the decision in that -- and one
30 that so far has been successful, that we would not
31 involve them in union membership and we negotiated this

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Cross-Exam by Bayly

1 if you will, with the union. The reason for that is
2 that it then provided us an opportunity of, in those
3 cases where the individual demonstrated, that we could
4 accelerate his development and training at a much
5 quicker pace than we could if he was under the union
6 contract. As you can appreciate in the union contract,
7 each time there's an opening, whether it's as a result
8 of promotions, person terminating employment -- then
9 you're into the situation where that position must be
10 bid, and the normal move-up is from the next lower
11 classification and although you're hesitant to see
12 it happen, frequently the decision as to who moves into
13 that next higher classification is predicated primarily,
14 or to a large measure, on amount of service. So
15 seniority plays a very key role. And so it was with
16 this in mind that we -- that we held them outside of
17 the union contract. It allowed us a greater degree of
18 flexibility.

19 Q What is the
20 union of those plants? The Oil, Chemical & Atomic
21 Workers?

22 A No sir. The plants we're
23 talking about, they're an independent gas and oil
24 union, certified union in Alberta.

25 Q What's the
26 name of the union?

27 A The Gas and Oil Union,
28 Local -- and then -- applicable to that location.

29 Q Are your operations in the
30 delta, the exploration, the rigs, unionized?

Sider, Wopnford, Tod
Cross-Exam by Bayly

A No, sir.

Q Are your rigs in Alberta
unionized?

A Not to my knowledge, no
sir.

MR. BAYLY: I could continue
then. I wasn't able to find any statistics either in
Nortran's material or yours that would tell me how many
of these people that started in 1971 are still with the
three companies or one of the three companies. Do you
have those figures?

A I don't have those figures
with me.

Q Can they be supplied?

A Yes, they could be supplied.

Q And could you do that on
the basis of the number of employees who have been with
the program and, therefore, the companies for four,
three, two and one years?

A Yes, they could be.

Q Now, what we do have from
the Nortran evaluation by Dr. Hobart, is at page 64, a
statement that, "it is clear that continuation in the
program at this stage is most characteristic of those
who joined the program early and have undergone a weeding
out process and to a lesser extent of those who joined
during 1974, among whom the weeding ^{out} process is not
yet complete." Now, my concern is that in evaluating
the program, it just hasn't been going on long enough
for you to say that it is going to supply a number of

Sider, Wopnford, Tod
Cross-Exam by Bayly

1 of permanent people and how many permanent people from
2 those who started during the first four years. Would
3 you agree with me?

4 A Yes.

5 Q So its successes in those
6 terms cannot be evaluated?

7 A Not completely, no.

8 Q Its successes in its own
9 terms for the four years that it's been going on, per-
10 haps can be evaluated?

11 A Yes, sir.

12 Q And when you're evaluating
13 and forecasting how successful it is going to be, I'm
14 suggesting that somebody in^{your} companies in order to make
15 this statement at page 15 of volume six, must have
16 looked at those programs, first of all, those govern-
17 ment mining and railway programs to determine that they
18 weren't successful in providing permanent employment
19 for native peoples. Is that a statement that you'd
20 agree would follow from the statement on page 15?

WITNESS WOPNFORD:

21 We would not -- we did
22 not do that. It may have been that that sort of thing
23 was evaluated by the staff of Nortran when they were
24 formulating their training program. I'm not certain
25 of that.

26 Q So we have no way of
27 knowing from the companies themselves whether in the
28 long term, their programs are likely to be more
29 successful or as successful or less successful than
the three categories mentioned at volume six on page 15?

Sider, Wopnford, Tod
Cross-Exam by Bayly

WITNESS SIDER:

A That's correct.

Q The Nortran program, just so we'll understand that it's one that's supported by industry and industry cooperates by offering the jobs, but the training portion of it, am I right in saying, is largely supplied by government funding? Or is that joint industry, government funding?

A I don't think that I would suggest that it was -- you know -- certainly not in its totality, there is an initial period, Mr. Bayly, I believe, perhaps six months when there's some shared costing between Nortran and the government. Certainly, it doesn't extend for -- forever and go on.

Q Well, that's like the manpower on the job training program where industry or business pays 50 per cent and the government pays 50 per cent during a prescribed training period?

A Right.

Q And was that the proportion during those six months, approximately 50 per cent?

A I believe so, I couldn't answer.

WITNESS WOPNFORD: It's only 50 per cent of certain costs. It's not 50 per cent of the total cost.

Q Right.

A And the result is, it's been something probably less than 20 per cent since its inception. It's considerably less than that, as a matter

Sider, Wepnford, Tod
Cross-Exam by Bayly

of fact.

Q The government helps pay for what Dr. Hobart has called, for want of a better term, the "weeding out process".

WITNESS SIDER:

A I'm sorry, would you ask the question again, please, Mr. Bayly.

Q The government pays for a portion of the first six months, which is the time during which the "weeding out process" as Dr. Hobart calls it, takes place?

A Yes, certainly.

Q You stated in your evidence at page six in the second paragraph that "the influx of money from wages undoubtedly will allow for an improvement in housing and development of better municipal services". Now perhaps, you'd care to suggest how this is likely to happen, as is my understanding of housing in the north at present, is that it's design and bringing into the north is a -- something that the governments do and that municipal services are supplied, not out of a man's wages but out of his taxes, on the basis of what the authorities may feel they can afford.

A I would think, Mr. Bayly, that perhaps we weren't specific enough in those words. I think when we're talking about housing, we're talking about you know, the facilities within the housing, and I'm thinking of furnishings and those type of things.

Q But you would eliminate the municipal services that you referred to from inclusion in that, as a function of higher wages?

Sider, Wopnford, Tod
Cross-Exam by Bayly

1 A Well, I would - I would
2 certainly think that the basis on which rent is paid
3 in the north is predicated on a mans' earnings, and if
4 his earnings were sufficient for him to pay the maxi-
5 mum amount of taxation, then that allows the municipality
6 to provide better services.

7 Q All right, as I understand
8 there's a fairly high per capita income in Sachs Harbour
9 but we don't see a utilidor there, so it doesn't
10 necessarily follow, do you agree with me?

11 THE COMMISSIONER: Well, I don't
12 think that this is getting us very far. These gentle-
13 men can't be expected to speculate on this. I did --

14 MR. BAYLY:
15 Well, they did in their
16 evidence, Mr. Commissioner, that's the only reason that
17 I'm asking them how they know that and if they don't
18 it, that's fine.

19 THE COMMISSIONER: Well, I thought
20 these municipalities gained their revenue from taxes
21 on land owners and from grants by the territorial
22 government. A mans' income has virtually nothing to
23 do with it, as I understand. Am I wrong in that?

24 MR. BAYLY:
25 That was my understanding,
26 sir and I thought these gentlemen might have had some
27 other understanding that they could share with us.

28 THE COMMISSIONER: And as to
29 whether this development would lead to improved
30 municipal services, that is in the lap of the gods, I
31 should think.

32 MR. BAYLY:
33 That was my feeling, Mr.

Sider, Wopnford, Tod
Cross-Exam by Bayly

1 Commissioner. I'm content to leave it there.

2 THE COMMISSIONER: Well, no
3 you gentlemen add something if you wish, but these are
4 questions of -- that are complicated, to put it mildly.

5 WITNESS SIDER: And certainly,
6 Mr. Commissioner, we don't have all the answers and
7 it's a pleasure to participate, so that we also can
8 learn from the Commission and Mr. Bayly.

9 THE COMMISSIONER: I don't
10 know what you'll learn from us. Well, I -- I think
11 that the end has come as far as Monday's proceedings
12 are concerned. So we'll adjourn until 9:30 and I
13 should think we would finish this panel in the morning
14 without difficulty and move on to the policy panel,
15 which means, Mr. Bayly, we should get to your evidence
16 Wednesday.

17 MR. BAYLY: I would hope so,
18 Mr. Commissioner.

19 THE COMMISSIONER: If not
20 tomorrow.

21 MR. BAYLY: Yes, I would guess
22 that Wednesday, but I've been wrong before.

23 THE COMMISSIONER: I wonder --

24 MR. MARSHALL: I'm just
25 wondering if Mr. Bayly has more evidence coming. We
26 have that of four witnesses, who I understand are
27 expected to come on this week. I was just wondering if
28 we might get the next batch, when that might be expected.
29 I mean the timing is getting tight.

MR. GOUDGE: That's because Mr.

Sider, Wopnford , Tod

Marshall is leaving in the morning.

MR. BAYLY: Mr. Commissioner, my answer is yes, I have four pieces of evidence that are being typed today and hopefully run off into the night if the Xerox machines hold up. We went through three Xerox machines in Dr. Pimlott's evidence, I don't know if that says anything about the evidence.

THE COMMISSIONER: Can you tell me who the witness is -- the first four witnesses will be, if we get to you tomorrow or Wednesday.

MR. BAYLY: Yes sir, they're in this order, Messrs. Shearer, Shaw, Martell and Pimlott. And, although late and with my apologies, copies of their evidence has been distributed to the participants and I would anticipate that by early tomorrow, provided machinery holds up, there will be four other pieces of evidence distributed.

MR. MARSHALL: That's the best we can do sir.

THE COMMISSIONER: OK, we'll adjourn to 9:30.

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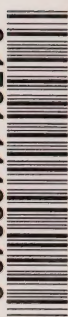
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